PHILOSOPHY

THE JOURNAL OF THE ROYAL INSTITUTE OF PHILOSOPHY

VOL. XXVI. No. 96 JANUARY 1951

PLATO AS POET: A CRITICAL INTERPRETATION

JOHN HARTLAND-SWANN, B.Litt., Ph.D.

PART I

> Plato, unlike Aristotle, was a poet: and just there lay his tragedy.
> SIR A. QUILLER-COUCH

> Philosophy and poetry (are) blended together where Plato is at his highest—in his Myths. J. A. STEWART

THAT Plato was in some sense a poet is a fact which most of us are prepared to recognize without much hesitation. What is not always clear is how far any of his Dialogues, in whole or in part, may be justly described as poetry, and to what extent his "poeticalness" must affect our critical approach to, and hence our evaluation of, his philosophy as a whole. And this, in effect, is the problem to which I propose to address myself in this paper. Before, however, I attempt to discuss what is an exceptionally complicated issue, a few remarks of a more general nature will not perhaps be out of place—for the need of caution in any approach to Plato is obvious from the start.

Unlike the works of the Pre-Socratic philosophers, which have come down to us in such fragmentary form, the text of Plato is comparatively free from lacunae and corruptions, and we probably now possess almost everything that he ever put in writing. Moreover, although Plato lived in an age when philosophical terms had still not acquired a stable connotation, we seem to witness, throughout the Dialogues, a constant effort to avoid vagueness and obscurity, and a sustained endeavour to achieve clarity of diction, logical rigour in argument and, within limits, verbal precision.

We might assume, then, that difficulties of interpretation would not

detain us unduly, and that we could fairly quickly pass to exegesis and criticism. Yet precisely the opposite is the case. For with Plato the problem of correct interpretation is acuter than ever—acuter perhaps than with any other philosopher in the entire history Western thought. Why is this so?

Among the various reasons that suggest themselves, many critics would no doubt single out as the most important *the peculiar artistic form* which Plato chose as a means of conveying his own, or his master Socrates', philosophy. Instead of a systematic prose treatise, we have, as we know so well, a series of Dialogues—some of which are set out in a highly dramatic manner. And it is primarily due to this dramatic setting, our critics would stress, that Platonic scholars have been presented with such a formidable mass of enigmas in the sphere of interpretation—enigmas whose solution still occupies them to this day.

Nor can it be said that this claim is without good foundation. We have to admit uncertainty, for instance, as to whether the characters portrayed in the Dialogues are historically accurate—whether they actually made, or were likely to have made, the speeches attributed to them; or whether Plato was re-modelling and perhaps improving their views. We cannot be sure whether Plato himself really embraced doctrines cautiously or hypothetically propounded by Socrates, how near the Platonic Socrates' teaching approximated to that of the historical Socrates, or how much of that teaching was superimposed by Plato. Again, it is not clear whether it is legitimate to talk of the Dialogues exhibiting a "development" of *Plato's* thought (in the same manner, for instance, as we can talk of Kant's thought "developing" from the *Inaugural Dissertation* to the *Critique of Pure Reason*)—or whether we should assume rather that in the later Dialogues Plato is "taking over" (and moving away) from Socrates, in order to set forth what is more specifically his own teaching. This is particularly well illustrated in the central point about which Plato's whole philosophy revolves—the doctrine of Forms or Ideas—which is still the subject of sharp controversy, and seems likely to remain so for a long while to come.

These problems, perhaps, are sometimes forgotten when we think we have grasped the main spirit of the Platonic philosophy, and are warming ourselves in the radiant glow of its other-worldliness. Yet surely it is just the artistic form of presentation—which has deservedly won the Dialogues such a high place in the world of literature—that is responsible for the long drawn out arguments as to what Plato himself believed and intended to teach, and how far he identified himself with either a historical or (as he put it in one of his Epistles)[1] an idealized Socrates?

[1] *Ep.* ii, 314C.

There is, however, yet another complication of which we must take note, since in a sense it cuts across all the foregoing remarks. It is held by the majority[1] of critics that Plato's most serious or mature teaching—which was the subject of his lectures at the Academy and with which Aristotle was mainly concerned—was never put into writing at all; and hence, it is assumed, Plato was in deadly earnest when, at *Phaedrus* 276D, he made Socrates declare that a philosopher's deepest thoughts should not be committed to writing (for that way misrepresentation lies), and that "in the garden of letters he will sow and plant, but only for the sake of recreation and amusement," or to provide "memorials to be treasured against the forgetfulness of old age, by himself, or by any other old man who is treading the same path."[2] Following this clue perhaps, some scholars inform us that even the *later* Dialogues "do not reveal, and are not meant to reveal, the real teaching of Plato,"[3] and that they "only contain what he thought fit to give to a wider public in order to define his attitude to other schools of philosophy."[4]

The fact is, however, that—whether or no this contention is correct—few scholars have ever accepted the full logical consequences of such a view (since it would virtually imply the abandonment of any attempt to expound a "genuine" Platonic philosophy);[5] and most have tried to extract the "real teaching" of Plato from the Dialogues by one critical method or another. Nor would it be justifiable whatever the logic of their position, to censure them for this, for the simple reason that a man of Plato's genius, convinced as he was of the overriding importance of philosophy in the moulding of conduct, could hardly fail to express his own views in one way or another, however much they might be disguised for the sake of the artistic coherence of a particular Dialogue.

We should not, then, interpret *Phaedrus* 276D too rigidly.[6] For if

[1] Professor Harold Cherniss is a notable exception.

[2] Jowett's translation. This passage from the *Phaedrus* appears to receive confirmation from *Ep.* ii, 314C and *Ep.* vii, 341*C*–342A, 343E–344D. But the whole question is bound up with Plato's conception of philosophy as a "way of life."

[3] D. J. Allan: Introduction (p. viii) to his translation of some of Julius Stenzel's essays under the title of *Plato's Method of Dialectic*, Oxford 1940.

[4] John Burnet: *Greek Philosophy, Pt. I, Thales to Plato*, p. 214.

[5] A. E. Taylor, whose views are similar to Burnet's, comes nearest, I suppose to making his exegesis square with his theories—but he frequently "forgets himself." A good example of this is his exposition (*Plato: the Man and his Work*, 4th edn., pp. 489 *sqq.*) of Plato's natural theology in *Laws* X; surely he is here giving us Plato's "real teaching"?

[6] Plato, through Socrates, implicitly modifies this statement a little further on (278), when he declares that if the compositions of poets, orators and legislators are "based on knowledge of the truth, and they can defend or prove them, when they are put to the test, by spoken arguments," then these poets, orators and legislators may be rightly called philosophers.

Plato was above all anxious to avoid being misrepresented, and considered that he could only properly convey his own serious teaching orally, then why, it may be asked, did he write a series of Dialogues which, as was recognized from Aristotle's time onwards, quite obviously did not solely embody the views of Socrates and the other characters portrayed? Surely he must have realized that commentators would, at some stage at least, read "Plato" into the Dialogues, and rightly assume that important doctrines, beyond the scope of Socrates' wisdom, were there being propounded? No doubt Plato did realize this, and his problem, his very difficult problem, was to convey his own teaching without doing violence to the peculiar dialogue-form which he had chosen, for whatever reason, as the most suitable means of written philosophic exposition. But this, of course, implied using some indirect, and hence possibly enigmatic, way of indicating just what those doctrines were; and although this was certainly not beyond the powers of (and probably quite congenial to) a literary artist such as Plato, it meant presenting both admirers and critics with those acute problems of interpretation in regard to deciding where Socrates leaves off and Plato begins. And the misrepresentation which he feared (cf. *Phaedrus* 275E) started to materialize even before his death[1]—whereas immediately after it his successors at the Academy and his erstwhile pupil Aristotle began to give conflicting interpretations of his doctrines.

Nevertheless, recognition that Plato used an indirect and possibly enigmatic method of propounding his own "real teaching" does help us, as we shall see shortly, to approach the lengthier poetical passages in the Dialogues with some hope of deciding the purpose they were meant to serve, and their actual philosophical value.

Similarly—and this is likewise important—recognition of the close interrelation of form and content in the Dialogues enables us to appreciate that Plato's artistic method of presentation, whatever its inconveniences, must be fully taken into account if we are properly to understand the philosophy he is propounding. The fact that most of the Dialogues can, despite their philosophical enigmas, be read and enjoyed by non-specialists as "works of art" has encouraged a bifurcation of Platonic studies. Thus, as Mr. Allan has rightly emphasized,[2] on the one hand philosophical students have been led to concentrate on the "pure" philosophy to be extracted from the Dialogues, while on the other linguistic students have read these from a literary or philological point of view, ravished by Plato's dramatic genius or avidly compiling lexicographical statistics, and more or less uninterested in the fact that they represent also a search for truth.

[1] Dionysius II, who apparently wrote a handbook to "Platonism," was the first offender. Cf. *Ep.* vii, 341B.

[2] *op. cit.*, pp. viii–ix.

Walter Pater, of course, had seen the futility of such a bifurcation,[1] but it was Julius Stenzel, among Platonic scholars, who properly set the precedent for a more satisfactory detailed interpretation of the Dialogues, and part of what he has to say in connection with the interrelation of form and content is, as we shall see, pertinent to the particular problem which concerns us here. Prof. J. A. Stewart—whose views we shall also find relevant (if unsatisfactory)—saw two Platos: the one a dialectician, the other a poet or mythologist. Stenzel, if I read him correctly, finds no such dualism—or at least he finds the dialectician co-present with the poet. And so too, in a sense, does M. Perceval Frutiger,[2] whose work on Plato's Myths is, of the many that have appeared, probably the soundest so far as interpretation is concerned. But I return to all this later.

Before, however, I conclude this prolegomenon, it is necessary to emphasize the following. Superficially, it might appear that whether Socrates' or Plato's philosophy is being propounded in the Dialogues is largely irrelevant to our enquiry—since presumably all we have to do is to decide whether philosophy and poetry have there been successfully combined. But although this consideration would apply in most cases (in that of Lucretius for instance), in the Platonic Dialogues it is just this strange background problem, which I have briefly discussed, that affects our whole evaluation of the combination—when it can be said to take place. Moreover, as we shall see directly, the approach required in respect of a philosopher who uses, at times, a poetic method of philosophizing, is totally different from that necessary in the case of a poet who expresses his own (or another's) entire system of philosophy in verse.

With this in mind let us examine the claim that Plato, on the basis of the Dialogues, is entitled to be called a poet, and see to what extent it is justified. We shall then be in a position to approach the more prickly question whether Plato's combination of philosophy and poetry, in so far as it actually occurs, is beneficial or harmful from a philosophical point of view.

Poet or Dramatist?

Although most of us are prepared, as was said at the outset, to recognize that Plato was in *some* sense a poet, it may reasonably be asked whether the Dialogues, taken as a whole, do not give the impression that their author might be more appropriately described as a dramatic artist. Certainly no Dialogue is uniformly poetic, however poetic it may be in some of its parts.

As a start, however, let us note that there is a double sense in which it has been claimed that Plato is poetic. James Adam, a scholar who

[1] Cf. his *Plato and Platonism*, London 1893.

[2] Cf. *Les Mythes de Platon*, Paris 1930, pp. 4–5, 178.

seems at times to adopt a rather sentimental attitude to Plato's teaching, puts it as follows: "It is not only in his style and language that Plato is poetical: his philosophy itself is steeped in poetry, and we shall altogether fail to understand his significance in the history of human thought unless we realize this indisputable fact."[1] Without halting to discuss the full implications of this statement we may recall that Aristotle had implied that the "Socratic Conversations," though not written in metrical language, should be classed as poetry—as should the prose-mimes of Sophron and Xenarchus which they apparently resembled.[2] But this was because they appeared to him as "imitative" in character, and "imitation" (μίμησις) was, on his aesthetic theory, the fundamental characteristic of art and hence of poetry. On another occasion, when he was not occupied with enforcing theoretical distinctions and demonstrating that metre was not a poetic criterion, Aristotle is reported[3] to have declared that the Platonic style of writing was intermediate between prose and poetry. And indeed it is clear that if we baldly classified the Dialogues as poetry, we should be giving that term too loose and nebulous a connotation. We can agree that passages of great beauty (especially in the *Symposium* and *Phaedrus*) are easily discoverable; but it would be a grave mistake to *equate* the *Republic* for instance, let alone some of the later Dialogues, to poetry pure and simple, since in reading them we just do not feel we are reading a poem. We feel, rather, that for most of the time we are participating in a conversation that is sometimes jocular in tone, and more often serious and didactic.

We have, therefore, in the context of this enquiry, to beware of the generalizations of literary critics—especially if those literary critics happen also to be poets. Thus Coleridge maintained that the writings of Plato "furnish undeniable proofs that poetry of the highest kind may exist without metre, and even without the contradistinguishing objects of a poem;"[4] and Shelley declared that "Plato was essentially a poet—the truth and splendour of his imagery, and the melody of his language, are the most intense that it is possible to conceive."[5] These comments are well enough in their way, and (like Aristotle's remarks in the *Poetics*) help to dispel popular misconceptions about the relationship of poetry to metre. But they only tend to blur the issue which concerns us here.

Again—to adopt another standpoint—we may legitimately call the Dialogues dramatic pieces, if we bear in mind that their objective is

[1] *The Vitality of Platonism*, Cambridge 1911, p. 9. It seems likely that Adam was thinking mainly of the *Timaeus* here.

[2] *Poetics*, i, 1447b 7–10.

[3] *Diog. Laert., III, 37.*

[4] *Biog. Lit.*, chap. XIV. By "contradistinguishing objects of a poem," Coleridge presumably meant "pleasure" as opposed to "truth"—or so the next few lines imply. But he also adds that "a poem of any length neither can be, nor ought to be, all poetry"!

[5] *A Defence of Poetry.*

by no means identical with that of drama in its more familiar form, and also—what is not unimportant—that their dramatic quality varies considerably according to the period when they were composed. The later Dialogues, for instance, lack the delicate artistry and vivid characterization of some of the earlier ones written when Plato was at the height of his dramatic powers.

To give a generalized description, therefore, which will cover Plato's work as a whole, is no easy matter. His technique is too richly diversified to be compressed within some simple formula. Perhaps, then, we can say something like this. The Dialogues are works of art; dramatic to a varying extent; compact of serious argument, scientific and mythical description, sustained pleading, high incantation; enlivened by humorous incidents, quotations from the poets, topical allusions, playful digressions—all these diverse elements combining to develop a series of philosophical themes. And conversely it is these philosophical themes which orient and control the variegated discussions in each Dialogue. The language itself fluctuates between extremes of fine-spun or even laboured prosaic argumentation, and colourful or metaphorical descriptions of high poetic quality. And it is, naturally enough, in the Myths, allegories and fables that this poetic quality is longest sustained, and that Plato's imaginative genius most openly displays itself. Not only are we aware that "poetry" rather than "fine prose" is the more correct description, but we can feel the presence of emotional currents which seem, for the moment, to change the whole atmosphere of the Dialogue. It is here that we realize the justice of Pater's remarks: "He breaks as it were visible colour into the very texture of his work: his vocabulary, the very stuff he manipulates, has its delightful aesthetic qualities; almost every word, one might say, its figurative value."[1]

It is here too we realize that the high poetic quality of the language is not due to a clever manipulation of imagery or a felicitous choice of words, but rather to an intensely vital and even exuberant creative impulse taking everything in its stride, and expressing itself with an ease that comes naturally only to one who is a poet at heart. Plato's art, consists, as M. Frutiger aptly puts it, "dans une qualité *sui generis* de l'expression, dans un certain état de sensibilité que le poète éprouve lui-même, et qu'il parvient à nous communiquer par la magie du verbe."[2]

All this is perhaps familiar enough, but the peculiar problem which faces us here is complicated by the fact that Plato, unlike Boethius,[3] does not always make it easy for us to establish any sharp distinction between prose and poetry in his writings. Frequently enough the language changes almost imperceptibly as the thought

[1] *Plato and Platonism*, p. 127. [2] *op. cit.*, *p.* 271.

[3] In his *Consolation of Philosophy*.

behind it takes on a different emotional tone; indeed, poetry threads in and out of the Dialogues[1] in a most elusive way, sometimes appearing only for a moment and to be quickly thrust aside by the more prosaic requirements of the subject under discussion. And it is only easy to pin down, so to speak, when we are presented with some pictorially vivid simile, metaphor, allegory or fable (including especially, of course, those fables which have been raised to the dignity of "Platonic Myths"), and are thereby made palpably aware of the "imagination" playing a preponderant part. But sometimes we are not sure whether we are justified in talking of "poetry" or not; and and even when we can recognize that there is a poetic strain present, it is often complicated by a deliberate air of mock-heroics (as in the earlier speeches on love in the *Symposium*, and in Socrates' own satirical effusions in the first part of the *Phaedrus*), which indicates that Plato is only half-serious and just revelling in the display of his poetic (and rhetorical!) talents.

Nevertheless, there are other occasions when Plato is in deadly earnest with his poetry—when it is clear that he has some important philosophical purpose in view. And it is here that our problem, which frequently tends to become blurred, slides into somewhat sharper focus. For if his more serious poetizing had a definite philosophical function to perform, we may justly enquire, not only whether it did in fact successfully perform this function, but also whether it was actually desirable that it should attempt to do so.

But this question of a special function and its desirability invites us first to say something about Plato's attitude to poetry; for if he condemned poetry in the uncompromising manner that he is sometimes supposed to have done, then we shall have a sufficiently disturbing (or entertaining) paradox on our hands: a philosopher who set himself up as the "hammer of the poets" doing the very same thing for which these unfortunate souls were to be expelled from his ideal State!

Plato's Attitude to Poetry

As we have just implied, there used to be a widespread belief that Plato was unconditionally hostile to all art, and especially to poetry. Thus an eminent scholar such as Sir Arthur Quiller-Couch could write:[2]

> Precisely because the poet and the philosopher were born side by side in him, and because of his superstition that philosophy, being the more rational, must therefore be the true heir of his mind, the quarrel in him became inter-

[1] This is especially noticeable in the earlier Dialogues (up to and including the *Phaedrus*), and also, of course, in the *Timaeus*.

[2] *Coleridge: Biographia Literaria*, Cambridge 1920, Introduction, pp. xxix–xxx.

necine; nor, though his affections tore him, could he see any end but to strangle poetry and cast the body out of his system: which he accordingly did, with the result that (if we except Tolstoi, in these later times) Signor Benedetto Croce can arraign Plato with truth and justice as "the author of the only great negation of art which appears in the history of ideas."

There is, of course, some truth in this statement, but it implicitly embodies a fundamental misconception which R. G. Collingwood calls "especially an English error"—an error, he suspects, which infected Croce through Bosanquet.[1] At all events, it is by no means the case that in the *Republic* all poets are banished from the city. In the third book (398A) it is only the poet who is a mere entertainer that is to be excluded, and in the tenth, although all "representative" poets must now fall under the ban, *some* poets are still retained (i.e. those who are not concerned with μίμησις or "representation"), as when Socrates says that the only kind of poetry we must admit is "hymns to the gods and praises of good men" (607A).[2] And this, no doubt, explains Plato's oft-expressed reverence for Pindar.[3]

Thus Plato (however open to criticism his aesthetic theories may be) was not hostile to poetry as such, but only to certain *kinds* of poetry—namely, those which, in his opinion, had a bad *moral* effect. For he subscribed to what Collingwood would call a "technical" theory of art: poetry was a craft or τέχνη which aimed at producing a desired state of mind, a certain effect in the listener or reader which would be good or bad according to the type of poetry in question. He had already clearly stated his position in the *Gorgias* (502), where that type of poetry which was written to "give pleasure to the multitude" rather than to contribute to their "moral improvement" was likened to "a sort of rhetoric"—and condemned. And thus the ancient "quarrel between philosophy and poetry" is explained by Plato's concern for the bad moral effects of Homeric epic and Athenian tragedy on the citizens of his ideal State. In his own words:[4]

> Yes, I said, my dear Glaucon, for great is the issue at stake, greater than appears, whether a man is to be good or bad. And what will any one be profited if under the influence of honour or money or power, aye, or under the excitement of poetry, he neglect justice and virtue?

In short, like Xenophanes before him, Plato was deeply conscious of the traditional role played by poetry in the sphere of education—was not Homer still regarded by some as the "educator of Hellas"? He was determined, therefore, not that poetry should be abolished—he was too good a psychologist for that; but that it should be disin-

[1] *The Principles of Art*, p. 46.

[2] Cf. *Laws*, vii, 801–2, where virtually the same views are expressed by the anonymous Athenian.

[3] Cf. *Meno* 81B, *Rep.* 331B.

[4] *Rep.*, x, 608B.

fected, as it were, and made complementary rather than opposed to philosophy.

But if this clears up Plato's attitude to poetry as such, it still leaves open the question how legitimate or desirable it was, in his opinion, to install poetry right in the heart of philosophy itself—or, to put it in another way, how far he was being consciously and deliberately poetic in the Dialogues.[1] Plato himself gives no forthright answer to this question, but there is what we might term a significant clue in the *Phaedrus*—that crucial Dialogue which was written when he was perhaps starting to shadow forth his own rather than Socrates' views. The relevant passage runs as follows:[2]

> When he (sc. the "true" orator who *combines* knowledge of truth with the art of persuasion) understands what persons are persuaded by what arguments, and sees the person about whom he was speaking in the abstract actually before him, and knows that it is he, and can say to himself, "This is the man, or this is the character who ought to have a certain argument applied to him in order to convince him of a certain opinion;"—he who knows all this, and knows also when he should speak and when he should refrain, and when he should use pithy sayings, pathetic appeals, sensational effects, and all the other modes of speech which he has learned;—when, I say, he has learned the times and seasons of all these things, then, and not till then, he is a perfect master of his art.

This passage, which extols the higher rhetoric based upon dialectic, gives us an indication—but no more than an indication—that Plato's use of poetry in his philosophizing was sometimes deliberate;[3] but it still remains possible that, on the whole, he was more a poet *malgré lui*. It may well have been either that the poet in him automatically or unconsciously impelled him to the use of certain devices—the figures, the allegories, the Myths—which he might otherwise have eschewed; or that the devices which he designedly chose for philosophic purposes tended, quite naturally, to turn into poetry in his hands.

Having now indicated, first, the complications attendant on any study of Plato, second, the extent to which Plato is actually poetic, third, his attitude towards poetry in general and, fourth, a possible clue to his own use of poetry when philosophizing, I shall next attempt to make the issue more precise by considering certain passages in the

[1] It may be noted that Socrates (*Phaedo* 61A) declared philosophy to be "the noblest and best of music."

[2] *Phaedrus* 271E–272A. Cf. 277.

[3] It has been pointed out by scholars that, quite apart from actual quotations from the poets, there are one or two passages in the Dialogues where a definite metrical arrangement can be detected. The passages in question however—notably *Symp.* 195A–197E and *Phaedr.* 237A–241D—are in the nature of deliberate parodies on the styles of other writers. When Plato is seriously propounding his own (or Socrates') doctrines, however "poetic" he may become he does not use verse.

Dialogues where poetic elements are, so to speak, more tangibly manifested.

The Poet at Work

The elusive character of Plato's poetry, and the difficulty we sometimes have in determining when poetry ends and prose begins or *vice versa*, compel us to recognize that we are dealing with a philosopher who, with obvious spontaneity, embellished his work in a way that would be quite alien to a philosopher who was only anxious to write a *treatise*, and was therefore determined to suppress any artistic talents which he might happen to possess.

Nevertheless, we have no right to assume that, because Plato conceived that philosophy should be written in a manner radically different from that adopted by Aristotle (or his editors), he was on that account any the less sincere or disinterested in his pursuit of truth. And it seems clear that, although at times (and particularly in the earlier Dialogues) he may have wished to "entertain" both himself and his readers, his more palpable poetic excursions all had their philosophic mission to fulfil, and were all integrally related to the main purpose, or purposes, of the Dialogue in which they appeared.

But it is necessary to make a distinction here. In this matter of relatedness there is always a more and a less. That is to say, some of these more poetic passages have a merely illustrative value, of greater or lesser philosophical significance, whereas others, the greater Myths, appear to have what we might call an *internal* philosophical function of their own. Not, however,—to recognize yet another complication!—that this function is always the same. But of that more in due course.

I come now to the problem of illustrating, by way of actual examples, Plato's method of combining philosophy and poetry. And it *is* a problem, since it is a somewhat dangerous undertaking to extract some poetic passage or another, and then try to examine and evaluate it in isolation. All Plato's more palpable poetizing relies for its significance and force on being related to the main context in which it is embedded. He did not write poetry *in vacuo*, as some critics have been prone to believe. It is therefore fortunate, perhaps, that the Dialogues are so much better known than (say) the verse-fragments of the Pre-Socratics, since space would prohibit the reproduction of any extracts lengthy enough to do Plato full justice. Nevertheless, some risks must be taken, and if the reader will appreciate that brief extracts may convey an artificial impression unless the general outline of the Dialogue is kept well before the mind's eye, a few of these may not be out of place. For they will at least enable us to see how different approaches are required according to the nature of the example in question.

First of all, then, let us consider a delightful little fable and allegory—sheer poetry, but with a philosophical significance that is perhaps minimal by modern standards. The *mise en scène* is as follows. Socrates is telling Phaedrus (in the Dialogue that bears his name) that the grasshoppers, if they see the two of them conversing at midday (instead of slumbering like the multitude), will bestow on them the gifts which they are allowed by the gods to impart to men. "What gifts do you mean?", asks Phaedrus. "I never heard of any." Socrates replies as follows:[1]

> A lover of music like yourself ought surely to have heard the story of the grasshoppers, who are said to have been human beings in an age before the Muses. And when the Muses came and song appeared they were ravished with delight; and singing always, never thought of eating and drinking, until at last in their forgetfulness they died. And now they live again in the grasshoppers; and this is the return which the Muses make to them—they neither hunger, nor thirst, but from the hour of their birth are always singing, and never eating or drinking; and when they die they go and inform the Muses in heaven who honours them on earth. They win the love of Terpsichore for the dancers by their report of them . . . of Calliope the eldest Muse and of Urania who is next to her, for the philosophers, of whose music the grasshoppers make report to them; for these are the Muses who are chiefly concerned with heaven and thought, divine as well as human, and they have the sweetest utterance. For many reasons, then, we ought always to talk and not to sleep at mid-day.

This sort of poetic interlude raises, we might say, no special problem—any more than does the story of Gyges' Ring.[2] It is simply an implicit warning against mental indolence; at the same time, perhaps, the grasshoppers can be taken as symbolic of the true philosopher who, as emphasized in the *Phaedo*, *Republic* and *Theaetetus*, reduces the needs of his body to a minimum. It is, if you like, an embellishment; but it also links up with the general discussion in the latter part of the *Phaedrus*, which is concerned with the relation of "good speaking" to truth.

Let us now consider another aspect of Plato's combination of philosophy and poetry, and one that exhibits him in a very different mood. We may turn for our examples to the *Timaeus*—that rich and strange amalgam of philosophy, theology, science and myth. It is here that Plato is nearest to the Pre-Socratics: the influence of nearly every one of them is traceable, as is that of the Hesiodic and Orphic cosmogonies. It is here too that dialectician, scientist and mythologist are to be seen so closely working together that it is no easy matter to disentangle them. Putting aside, however, the many problems of

[1] *Phaedr.* 259B–D (Jowett's translation).

[2] *Rep.*, ii, 359C–360D. The story of Gyges' Ring is far more directly illustrative of a point in the main argument than is the Fable of the Grasshoppers; hence it is more philosophically significant. But its language is "prosaic" enough to exclude its consideration as poetry.

interpretation raised by this Dialogue, let us plunge *in medias res* by taking three brief extracts from the opening discourse of Timaeus concerning the creation of the world; these will indicate the style of the philosophizing and the quality of the poetry (and on their own, perhaps, little more than this):[1]

> Now, the making of the Universe took up the whole of each of the four elements: for the Maker of the Universe made it of all the fire that was, and all the water, and all the air, and all the earth, and left not any part or virtue of any of these without; to the end, first, that it might be a Living Creature, Whole, so far as might be, and Perfect, with the parts thereof perfect; and secondly, that it might be One Only, since naught was left over of which another like unto this could be made; and thirdly, that it might be without old age or disease; for He knew that if things hot and cold, and all such as have strong powers, encompass the composite body from without, and strike against it unseasonably, they dissolve it and bring disease and old age upon it, and so cause it to decay.

> Thus did God, Who is alway, reason with Himself, concerning the god who should be, and made him to be smooth, and even, with boundary at every point at equal distance from the centre—a Body whole and perfect, composite of bodies perfect. And in the midst thereof He put Soul, and spread it throughout the whole, and also wrapped the Body round about on the outside therewith; and made the Universe a revolving sphere, one only, and solitary, but, by reason of the virtue which belonged unto it, able to consort with itself, having need of no other, being itself acquaintance and friend unto itself in full measure. A god, then, in regard of all these things blessed, begat He it.

> Now, when the Father Who begat this created image of the eternal gods saw that it moved and lived, He was glad; and, being well pleased, took thought to make it even more like unto the pattern thereof. Inasmuch, then, as that pattern is an Eternal Being, even such, so far as might be, did He seek to make this Universe likewise. Now, the nature of the Being which is the pattern thereof is eternal. And this nature could not be joined in any wise unto the created thing: wherefore He took thought to make a Moving Image of Eternity; and whilst He was ordering the Heaven, He made of Eternity which abideth in Unity an Image Eternal progressing according to Number, to wit, that which we have called by the name of *Time*.

These passages, which, it must be emphasized once again, are apt to be misleading when thus exhibited in isolation, do succeed in demonstrating two things. First, that the language, though poetic, lacks the rhythmic quality of the *Phaedrus* passage quoted earlier—its beauty being of a more rugged nature; second, that there are some occasions at least when it is true to say, with Adam, that Plato's philosophy itself is steeped in poetry. Thus, although the dramatic form of the earlier Dialogues has all but vanished in the *Timaeus* (from 29D to the

[1] Successively: 32C–33A; 34A–B; 37C–D. The translation is by J. A. Stewart (*The Myths of Plato*, London 1905, pp. 263–71), and though perhaps a little florid (compared with that of Jowett), well succeeds in bringing out the spirit of the original.

end it is exclusively a monologue by Timaeus himself), not only is there a well marked poetic strain present[1] but also—what is at once noticeable in the first two passages quoted—a resemblance to some of the fragments of the Pre-Socratics (particularly those of Empedocles), where the philosophical and the mythological are closely intertwined and indeed complement each other. For with Plato, as with Empedocles, the mythological features of his cosmology (or rather cosmogony) facilitate and encourage, and perhaps demand, a poetic form of expression. Conversely, it is no doubt true that we should never have had this particular form of mythical presentation if Plato had not been an instinctive poet.

Nevertheless, there is an important difference between any of those Pre-Socratic fragments and the present Dialogue, which the passages quoted, in separation from their context, do not make clear. For Plato is careful to make Timaeus emphasize time and again that he is only dealing with *probabilities* (εἰκότες λόγοι): he claims neither for his cosmogony nor his natural science the hall-mark of absolute truth. And this is understandable enough since both belong to the realm of Becoming, which can only be the object of belief or opinion, and never of knowledge.[2] Thus a mythical form of presentation seems to Plato to be the best way of illustrating the obscure processes here involved.

But what is important to note is that in the passages reproduced above there is an element of incantation present, a quality that is almost psalmodic or hymnic. And this, no doubt, was expressly introduced to reinforce belief by evoking a favourable emotional response—all the more necessary perhaps (in Plato's opinion), since no proof was or could be offered for the doctrines propounded: we have to "accept the tale which is probable and enquire no further" (29D).

Here, then, we can say that Plato is philosophizing, not by rational argument, but by what we might term *poetic method*. When we reach the stage of evaluation I shall have something to say about the desirability and value of this method; for the moment, however, let me clear the ground further by a brief reference to another type of Platonic Myth—exemplified in the story of Atlantis.

The story of Atlantis appears in the same Dialogue (*Tim.* 21A–25D) as the account of the creation of the world, is also a "genetic" Myth,[3] but deals mainly with imaginary events in the world of human affairs. Moreover, it enables us to see how dangerous it is to equate myth, *tout court*, to poetry, and that a Platonic Myth demands individual consideration from the aesthetic as from the philosophic point of view.

[1] It is, however, by no means uniformly present. Later in the Dialogue some of the long descriptive passages are quite prosaic and even clumsily constructed.

[2] Cf. *Tim.* 29C: "As Being is to Becoming, so is truth to belief."

[3] According to Frutiger's classification.

The Atlantis Myth of course, like all the others, has its particular purpose to serve, and is related to a larger context. This purpose, perhaps, is to enforce the moral that "numbers, wealth and engineering skill are no match for the national spirit of a free people."[1] It may well be contended that it has little to do with the main themes of the *Timaeus*; it is, however, closely related to the unfinished *Critias*, to which it forms a prelude. But what concerns us here is that it is poetic to a considerably lesser degree than either the grasshopper fable or parts of the Timaean cosmogony. It is more a highly embroidered account of a supposed prehistoric Athenian civilization (based on *Rep.* i–v!) which succeeds in achieving a Pyrrhic victory over the empire of Atlantis. Certainly, it is imaginatively constructed and pictorially vivid, but it lacks the poetic spirit and incantational flavour of some of the other Myths. The following short excerpt will perhaps indicate this:[2]

> Now in this island of Atlantis there was a great and wonderful empire which had the rule over the whole island and several others, and over parts of the continent, and, furthermore, the men of Atlantis had subjected the parts of Libya within the columns of Heracles as far as Egypt, and of Europe as far as Tyrrhenia. This vast power, gathered into one, endeavoured to subdue at a blow our country and yours and the whole of the region within the straits; and then, Solon, your country shone forth, in the excellence of her virtue and strength, among all mankind. . . . And when the rest fell off from her, being compelled to stand alone, after having undergone the very extremity of danger, she defeated and triumphed over the invaders, and preserved from slavery those who were not yet subjugated, and generously liberated all the rest of us who dwell within the pillars.

Clearly enough the hand of the artist is present; yet we do not feel that it is fully poetry.

The Platonic Myth, then, just because it is myth, cannot be equated to poetry pure and simple; sometimes it achieves poetry, as we have seen, and at other times it just falls short. And one of the reasons for this is that the Platonic Myth (inclusive of the allegories and fables) is *never* equivalent to the primitive myths of, say, the Nordic sagas and early Mediterranean religions. These myths are the expression of an unreflective, imaginative-emotional level of consciousness, and in the hands of a competent artist almost automatically become poetry. Plato's Myths, on the other hand, are intellectually manipulated myths (original or borrowed),[3] serving some definite if varying philosophical purpose, and do not automatically become poetry. And it is only due to his consummate mastery of language, and the richness of

[1] A. E. Taylor, *op. cit.*, p. 440. Frutiger, however, gives it a totally different interpretation—namely, to exhibit the ideal State in being.

[2] Jowett's translation.

[3] Plato's eschatological Myths (e.g. the Myth of Er) are borrowed from the Orphic-Pythagorean tradition.

his imagination, that at times he is able to endow them with a true poetic spirit.

For our last example we may turn to the famous discourse of Diotima in the *Symposium*, where once more we see Plato the poet shining through with all the subtle artistry and incantational persuasiveness of which he was capable—with his intellectual genius and his imaginative genius fused into one harmonius whole. We may take the closing paragraph:[1]

> What thinkest thou then, she said, if a man could see Beauty Itself, clear, pure, separate, not gross with human flesh, and tainted with colours, and decked out with perishing gauds—what thinkest thou if he could behold Beauty Itself, divine, uniform? Thinkest thou, she said, that it would be a paltry life for a man to live, looking unto that, beholding it with the faculty meet therefor, and being with it alway? Understandest thou not that thus only shall he be able, seeing with that whereby Beauty is seen, to bring forth, not Images of Virtue—for 'tis no Image that he layeth hold of,—but Things True—for he layeth hold of that which is True; and when he hath brought forth True Virtue and nurtured her, understandest thou not that then he hath become above all men beloved of God, and himself immortal!

Here we have no mere science of Becoming, as in the Timaean cosmogony; we are in the very realm of Being itself, the object of certain knowledge (*epistême* as opposed to *doxa*). Socrates himself makes this clear immediately: "Such, Phaedrus—and I speak not only to you, but to all of you—were the words of Diotima; and I am persuaded of their truth. And being so persuaded, I try to persuade others. . . " (212B). Is Diotima's speech, then, apart from the Birth of Eros story at the beginning, a "genuine" Myth? Some critics say Yes, others No. Certainly, if we follow the whole speech carefully, we can see that it has a dialectical background and deals with conceptual thought (which induces Frutiger to deny it the title of Myth); but whether it is a genuine Myth or not—or even, as Stenzel claims, a special device to enable Plato to peep over the shoulder of Socrates—our first concern here is that it represents a clear example of the combination of philosophy and poetry, or, put in another way, of philosophizing by poetic method. It also illustrates—what is not unimportant—Plato's conception of philosophy at the time when he was opening the Academy.[2]

It remains now to attempt a final appraisal of the success or failure of Plato considered specifically as a poetic philosopher. To this task I shall address myself in the second part of my paper.

[1] *Symp.* 211D–212A (Stewart's translation).

[2] Burnet defines Plato's conception of philosophy at this period as "In the first place the conversion of a soul, and in the second place the service of mankind" (*op. cit.*, p. 218).

(*To be continued*)

ETHICS AND POLITICS

A. C. EWING, M.A., D.Litt.

THE most important question under this heading is the question whether states are subject to the moral law. That they are has sometimes been denied even in theory, and there are no doubt still countries in which it would be highly desirable to publish an article combating this denial. But, thank goodness, England is not one of these countries, and it will suffice to say briefly that I can find no even plausible argument for the contrary view. This view has often been associated with the doctrine that the State is a sort of superperson over and above the individual citizens, to whom the latter can appropriately be sacrificed as beings of little worth, as we sacrifice to our own welfare, if we can, without any compunction the myriad germs inhabiting our bodies. I cannot see any reason whatever for holding this view either, but I should have thought that, if it were adopted, the analogy of the individual thus applied to the State would suggest the contrary conclusion that the State should find its true good not in its own unscrupulous aggrandizement but in co-operation with other States. We have been taught the analogous doctrine in regard to the individual from the beginning of the Christian era or earlier, and we can look on it as generally accepted in regard to the individual by reflective people in theory, although not, of course, by any means always in practice. If we regard the State as just a group of individuals, there is still less excuse for making it out to be subject to no moral law. In that case actions of the State will always be actions by individual persons, differing only from other such actions because they are performed on behalf of certain groups of persons.

As a matter of fact even the most nationalist Germans did not apparently hold the view I have mentioned about all States. They certainly would not have admitted that everything the Russian State or everything the British State did was right. They condemned many of the actions of these States in the most violent terms, thus implying that they regarded these States as subject to the moral law, for a being not subject to this law cannot do wrong and cannot be morally condemned. They condemned almost as violently actions done by their own State prior to the day when Hitler came into power. And in talking of the actions of Germany, when Hitler was in power, they sought to use moral arguments to justify them, thus tacitly implying that even during this halcyon period Germany was subject to the moral law. The view that the State can do no wrong cannot, I think, be regarded as a consistently thought out and reasoned point of view.

But, ignoring this extreme position, there is still plenty of scope for the discussion of the intersection of moral and political issues. It may indeed be said that all political issues are really moral. A question as to what ought to be done politically is on any utilitarian view a question as to what will produce the greatest good, and we are surely under a moral obligation to try to produce this. And on a non-utilitarian view the exceptions allowed to the principle of producing the greatest good will only be cases where a moral obligation of a different sort counteracts what would otherwise be a duty.

The only plausible exception is the case of actions designed to further our own hedonistic good. It may be said plausibly that, although it is reasonable and morally blameless to choose actions for their conduciveness to the agent's own pleasure when there is no higher obligation with which they are in conflict, it is not morally *obligatory*. This, however, does not apply to the case of States. An individual who decides that an action will contribute to his own happiness is perhaps under no moral obligation to do it unless there is some other reason besides for the action, but a government who decide that a certain action will contribute to the happiness of their country are thereby clearly under a moral obligation to do it unless it conflicts with a superior obligation. For it is certainly a moral duty to further the happiness of others, if not of oneself, and in doing what furthers the happiness of their own country the members of the Government will be doing what furthers not only their own happiness but the happiness of other citizens. Politics is a part of morals in the sense that it is always an answer to the question what acts are right or wrong in a certain sphere of action, as individual morality is in another.

But all questions as to what actions ought to be done are not themselves specifically moral. That is, while the decision that an act ought to be done puts us under a moral obligation to do it, it is a fact that in order to decide what we ought to do we must ask certain questions which are not specifically ethical but factual in character. It is a specifically ethical question which ends we ought to pursue. But in order to determine what we ought to do, it is not sufficient to know the end: we must know the means also, and the problem of the efficient means to a given end is not itself at all ethical but rather scientific in character. I mean it is just the question of forecasting the actual effects of an event, which is to be answered only by a knowledge of the circumstances under which the event occurs and of the causal laws determining its effects. Such questions of course bulk very largely in politics, and in so far as it is only such questions which are being discussed the issue is not a moral one. Economics is no more a moral science than medicine, though both are used as means for carrying out moral decisions, and it is a moral duty to

obey their injunctions in the sense that, if we ought to pursue a certain end on a given occasion, we ought to adopt the means dictated by sound physiology or sound economics but not by an unsound theory in either science. But it would be too simple to say—Ethics determines the end, we can let science determine the means. For this situation may arise: it may happen that the means which a perfectly sound science will have to approve as most effective for attaining a given end will be such as to conflict with another valuable end or to carry a great deal of evil in their train. In that case, whatever science says as to their causal efficacy, and however good the end is, there will be a further ethical question as to whether it is worth while attaining the end by the use of such means. It may perhaps have been sound economics, at least in some past ages, to say that under certain circumstances for a certain State the most effective means for increasing its wealth lay in launching an aggressive war in order to conquer another, weak and wealthy State; but it would be an ethical question whether these means, however effective for their end, ought to have been adopted or not. The people who used to stigmatize economics as an immoral science were mistaken, because the function of economics as such is not to tell us what is right in general but what is the most effective means of producing wealth; but they had some excuse in that so many people in the nineteenth century, ignoring this limitation in their favourite science, assumed that what was economically unsound ought never to be done, which was like assuming that I ought not to rescue a drowning man because physiology tells me that I am likely to catch a cold if I jump into a river in winter. If I obeyed these dictates of physiology and preferred my own freedom from minor ills to the life of another it would be right to blame me, but it would not be right to blame physiology as an immoral science. It is the business of physiology or economics to tell us the most effective means to certain ends, but not to tell us whether we ought to adopt the means if they do harm in other ways or are intrinsically evil.

Nor can a natural science tell us which of two conflicting ends we ought to sacrifice to the other. In politics there is relatively rarely—and there ought to be still more rarely—a question of totally sacrificing one end to another, but it is very often a vital question just in what degree we are to realize each of two ends, both good in themselves. This must be so if only because our economic resources are limited. Nobody wants to sacrifice education totally to comfort, or comfort totally to education, but obviously in choosing what amount of money is to be spent on education we are limiting the amount left over to be spent on comfort.

The distinction between questions of ends and questions of means is, I think, very important if we are to grasp the case for democracy.

It is said sometimes that democracy means government by the unskilled, and that therefore government should, like any other highly difficult science or art such as medicine, be left to the experts. But the trouble is that governmental decisions are not merely decisions as to means but decisions as to ends. Now, while there is a good case for submitting to experts' decisions as to means, there is not a good case for submitting to their decisions as to ends, and this is certainly not what we usually do in ordinary life. We call in the plumber to mend our pipes in the way he thinks most efficient, but we do not call him in to ask his advice as to whether it would be really better to have burst pipes or not; we call in the doctor to advise on means as to how we are to be restored to health but not to discuss whether health is really a good thing. To submit not only our means but our ends to the decision of experts would be slavery.

This suggests that it would be well if each party stood for a certain conception of the end, and elections thus decided only which end was to prevail, it being left to experts to work out the best means of attaining the end determined. In this way the experts and the masses would each have their appropriate share in the function of government and no more. But of course in practice things do not work out neatly like that. Questions as to ends and questions as to means are too much intermingled in politics. The means adopted are themselves often also ends, or evils, the reverse of ends. I should, however, regard it as a great improvement if more of an attempt were made to disentangle questions of means and questions of ends in political argument than is the case in fact.

It has indeed been said that democracy will work only if parties differ as to means, but not as to ultimate ends. This statement I regard as highly exaggerated. The truth contained in it is that, if parties differ too much about ends, or at least if either party thinks it more important that its own views as to ends should triumph than that democratic principles should be maintained, democracy is in danger of breaking down, but some difference as to ends there is sure to be. It may be doubted whether there are any two individuals who attribute exactly the same relative value to everything, but of course there are all sorts of degrees of difference in this respect. Clearly right-wing parties are likely to value more what is old; left-wing parties what is new, and this is clearly partly a difference in intrinsic valuation and not only as to means. There is a difference as to ends every time there is a dispute as to what proportion of the nation's financial resources should be devoted to one public object, and what proportion to another. Such differences need not mean a threat of civil war. They are not comparable to the overwhelming differences as to ethics between Nazis and Democrats, Communists and Non-Communists. But they exist and are relevant to politics.

Of course in all discussion as to means and ends we must be on the look out for cases where what is put forward by experts as the best means to a given end turns out to be prejudicial to another more important end. Whether it is in fact prejudicial is a question of its effects and therefore one on principle of science and not of ethics, but what we are to do if it turns out to be thus prejudicial is an ethical question. And of course it is an ethical, not a scientific question, how far, if at all, we are entitled to use morally evil means if these seem necessary to achieve a good end or avert a greater evil. What I have said so far may well have given too much the impression that questions of ends in the sense of the future results we ought to aim at are questions of ethics and questions of means in the sense of the present or more proximate events which will produce these questions of science. This is not correct. The question what future results we ought to aim at is partly a question of causal reasoning and therefore of science, because it is no good wasting our energies on the impossible, and causal reasoning is required to tell us what is and what is not impossible; and the question how to produce them is partly a question of ethics because, however good the end, we have certainly not got a right to use any and every means, however efficient. What I mean is that all along the line there are two sets of questions, the ethical and the scientific. I have called the former questions as to ends, the latter questions as to means, but it would perhaps be clearer if I called the one questions of value and the other questions of fact.

We may make a parallel scheme of them in this way:

Scientific Question	*Ethical Question*
Is this end attainable?	Is it good-in-itself?
Will this intefere with another end, and if so, how much?	Which end is more important, and by how much?
What is the most efficient means?	Is this means intrinsically bad, and if so ought we to use it?

If we take a view of ethics according to which some obligations or "prima facie obligations" are independent of the good produced, there will be some more questions to be asked. Thus, if we take this view in regard to promises, there will be on the scientific side the questions:

Was the promise really made, and what did it mean? (This falls in the domain of history and perhaps law.)

On the ethical side the question:

Is this one of the cases where we are under an obligation to carry out a promise, even though it will not produce the greatest good to do so, as far as we can see?

And similarly in regard to any other obligations which are held to be independent of the good produced by an action.

It is ultimately on questions of value, i.e. ethical questions, that the big political issues always turn, I think. Not that this means that we have a right to call the people who disagree with us morally bad. You can be mistaken on ethical issues without being really bad, especially in politics, where very good people have often held the most appalling views. But of course there are great differences in politics as to fact as well as to value. To realize this we have only to note the different predictions that Government and Opposition speakers commonly make as to the effects of controversial measures. But matters of fact are on principle capable of decision by the methods of the natural sciences so far as to give not indeed certainty, but adequate probable forecasts, as to consequences. The differences between different parties as to these questions cannot just be due to mistakes not traceable to bias: it would be too extraordinary a coincidence that these mistakes are almost always of such a kind as to support the line of policy adopted by the party in question. They must therefore be regarded as to a very large extent due to one or both parties having succumbed to the temptation to let their views on factual questions be unduly influenced by their views as to values. If we think that some means further an end which we much desire and value, there is a great temptation to belittle any detrimental effects which the means taken may have on other ends, and the constant differences between parties about what should be mere matters of fact or scientific predictions can only be explained by supposing that politicians yield to such temptations on a very large scale. It should be obvious that any important change is going to produce some considerable evil as well as good, though the former may, of course, be altogether outweighed by the latter, yet we constantly have politicians arguing as if a measure proposed by their party had all the advantages and none of the disadvantages. We have all been rightly shocked by the way in which the Russians put a bad interpretation on everything done by the Western Powers as though they themselves were all good and their opponents all evil. But I must admit that the habitual attitude of Opposition to Government and of Government to Opposition, as expressed in the speeches of party politicians in even so relatively satisfactory a State as our own—I am not speaking specially of this Parliament but of any peacetime Parliament—differs from the Russian attitude[1] in degree rather than in kind, and has at least much more affinity to it than would be the case if everybody tried to be fair. The debates with Russian and Russophil representatives in UNO have not been quite so unlike our parliamentary debates, I feel, as we should wish

[1] Up to 1947 at least when this was written.

to think, though it may well be that there is a weight of malice behind the dispute in the one case that is not at all present in the other. Party tactics obscure the fact that politics is a matter of balancing against each other the advantages and disadvantages of two courses and deciding which is most advantageous or least objectionable, and not of refuting completely all the arguments on the other side to one's own. It is only to be expected a priori that some of one's opponents' arguments will always be unanswerable in the sense that they will always be able to point to some disadvantages in the course advocated by us, and that usually all we can hope to show will be that the advantages completely outweigh in importance the disadvantages.

Let us now consider some concrete political issues with a view to determining how far the questions at stake are moral and how far scientific. The attitude of the Communists has sometimes been represented as though they held the "organic view of the State" in the sense of regarding the State as an entity over and above the individual citizens to which entity the latter must be regarded as mere means. This may come near to representing the attitude of the Fascist, but we must not assume that it is involved in all totalitarianism. It could hardly be called even the Nazi view, since *Mein Kampf* denies it expressly, but it may be said that this makes little difference since the Nazis did regard the individual as a mere means to the good, if not of the State, of the race (hypostatized in this mystical fashion). But it would, I think, be unfair to look on the Communists as regarding the individual as in this sense a mere means either to the State or to the class or party. There is, however, another sense in which they seem to regard the individual as a mere means where the democrat regards him as rather an end in himself. The Communist, like the democrat, justifies his decisions by reference to human welfare, but he thinks much more in masses. He does not scruple to sacrifice the individual totally to the community in the sense of the mass of other individuals, though not in the sense of an entity over and above all individuals. He would not, like the Nazis, despise happiness as an end, but say that his means served the greatest happiness of the greatest number and were justified by this. On what grounds could his view be rejected? We might, of course, contend that his policy was not really conducive to the greatest happiness of the greatest number. In that case the dispute would be on principle a scientific one as to the effects of his actions. It may well be that it does not make even for the greatest happiness of the greatest number to be as ruthless in sacrificing the individual as Communism is. I myself am sure it does not. But there are other lines of reply which the democrat would combine with the former. The democrat would probably contend that individual liberty and

development is intrinsically good and not merely good as a means and that this good is sacrificed under Communism, so that even if Communism were the system which produced the greatest happiness it would not be the system which produced the greatest good. This is a question of ends, and not of means, a question of ethics and not of science. I do not know whether a Communist would be committed to regarding happiness as the only thing of value in itself, but he would certainly attribute to individual liberty either no intrinsic value at all or far less than does the liberal democrat. Finally, the democrat might contend that, even if it could be shown that it would produce the greatest good on the whole and not only the greatest happiness, it would still be wrong to purchase the greatest good at such a price. Probably most democrats would hold all three views in so far as they thought of the question at all.

Mixed up with this is another difference which must be classified not indeed as specifically ethical but as philosophical or at least epistemological. The Communists apparently hold that their view is so well established that there is no chance of its being wrong and therefore think criticism of it as on a par with theories that it is right to steal or murder. The democrats hold that in the absence of absolute certainty it is essential to have freedom of speech as a means of testing views and picking out what is good and bad in each. This is a view that is hardly to be classified as either scientific or ethical but as a part of one's general philosophical outlook. It is, however, obviously a discussable difference: we can consider the arguments for the Communist philosophy and the arguments against it, and we can also consider general epistemological arguments which bear on the possibility of ascribing certainty to such theories. Another cause of conflict, perhaps in practice more important than any of these, is that Communism has come to be tied up with a narrow nationalism on the part of Russia, which, like all narrow nationalisms, is a potential source of strife. But nationalism is not a new vice and is not necessarily bound up with the Communist ideology but rather in theory contradicted by it. In theory the Russians do not claim that their interests are paramount over those of all other peoples or even that the obligation of the individual to the Russian State overrides all other obligations, but only that what in fact is to Russian interests is really to the interests of the whole world either because Russia is supposed to constitute the most progressive form of State or for some other reason. It is therefore philosophically more instructive to consider the issue of nationalism in connection with the more radical form of it advocated by Nazi Germany.

However, the issue as to the value of individuality and liberty is a real ethical difference of the greatest importance between Communists and non-Communists. But I do not see that it is bound

up with the Communist system of economics. What it is bound up with is totalitarianism. This certainly need not be Communist, and I do not see that Communism need be totalitarian in the sense of disregarding the value of individual liberty. Still less need it be anti-democratic. Communism as an economic system must be totalitarian in the sense of claiming that the State has a right to control all economic enterprises in the interest of the common good and that it ought to exercise this right, but it need not be totalitarian in the sense of demanding interference with individual liberty in other matters such as free speech. And it is hardly consistent for it to be in theory anti-democratic as a long-term policy, since it claims as its great merit that it puts the whole economic system under the control of the masses instead of leaving it under the control of a few private irresponsible individuals. Its anti-democratic features were excused as necessary means for the transition period, though of course it is open to us to doubt whether this "transition period" will ever in practice come to an end. After all, the country where Communism first developed is one where individual rights had never been respected, and it seems more likely to be this fact than the nature of Communism as such which is responsible for the present lamentable state of affairs. Certainly a Government which has such enormous powers as economic Communism gives it in a country where the value of individual rights in other matters is not appreciated, will always be very likely grossly to abuse its powers by interference with these rights, but it does not follow that it would do so in a country where it was democratically responsible to the nation and due importance was generally attached to the preservation of such rights. There is no reason why a State communist in its economic system should not be a democracy.

How far do such differences as that between Communism and Liberalism concern points which could even on principle be settled by discussion? In so far as they relate to the effect on general happiness of the measures proposed there certainly is common ground. Most people on both sides would, I think, regard this criterion as decisive, or almost decisive, in politics. For even if we do not hold happiness to be the only good, it seems to be the only end of which the State can take much account, and this, I imagine, would certainly be the view of the Communists. Now what the effect of proposed measures are likely to be in this direction is in general a question of scientific prediction, and consequently the inability of Communists and non-Communists to agree on it must be regarded as not due to its being a subject which could not on principle be settled by argument. It can be explained in one of two ways. Either there are no adequate arguments available owing to our lack of the data or the ability necessary for making forecasts, or both sides are

too prejudiced to appreciate the arguments in question. Again, the philosophical issue as to whether the communist world-view is to be regarded as too certain to require testing by free discussion is not one that is intrinsically incapable of being settled, but one for philosophical argument. Even if such argument cannot give ultimate philosophical truth, it should be capable of establishing at least that the Marxist view is uncertain. (If the conclusion be that in no case can ultimate philosophical truth be established with scientific certainty, Marxism is clearly not certain.) There remains the specifically ethical issue. This may appear to many as on principle incapable of settlement by discussion. Now I cannot here go into the whole question of the possibility of settling ethical disputes. I have already discussed it in an article in *Philosophy*,[1] if anybody is interested. All I shall say now is that I think there are ethical arguments, e.g. from analogy and appeals to the coherence test, which do not reduce themselves to factual arguments from consequences. I think, however, that the chief way of inducing someone to believe a proposition as to ultimate ends with which he at first disagrees, is by showing him the factual nature of the thing in question in a more revealing and understanding way than he had heard before, and if possible giving him experience of the thing in question at its best. The fact that Russian restrictions do not allow of the latter is an unfortunate contingent fact, not an epistemological obstacle which shows it in principle to be impossible, just as the difficulties about bringing democratic arguments to the notice of the Russians does not show that such arguments are intrinsically impossible. An adequate experience, or failing that, description, of freedom working at its best provides all the data required for determining whether it is good in itself or not, whether we regard such determination as a rational and objective matter (as I do) or as a mere subjective preference. We cannot say indeed that all ethical disputes can in practice be settled, but we have no reason to deny that they are soluble in principle, i.e., could be solved if we did our best to solve them, and we cannot say that even all scientific disputes are soluble in practice.

While the issue between the Western democracies and the Nazis bore some resemblance to the present one between them and Russia, there are also important differences of a kind which made the former even more intractable. If an ideology could ever make a war inevitable, then that of Hitler did so. For besides the issue between democratic Liberalism and totalitarianism which separates us from Russia, there were various other issues here involved. First, there was another profound difference of valuation besides that disregard of individual liberty which is characteristic of all totalitarian States.

[1] Vol. XXI, p. 29 ff.

The Russians might, as other nations often have done, adopt war as a means, but there is no reason to suppose that they or their rulers regard it as end-in-itself. Fascists and Nazis on the other hand praised it on its own account and seemed to regard it as a superior condition to peace. How far this was seriously held I do not know, but they certainly did grossly over-estimate the value of the characteristics it brought out and underestimate its evils. To this was opposed the democratic view of modern war as almost the very worst of disasters. Secondly, the Nazis were convinced of the intrinsic superiority of their own people to every other. Finally, the Nazis held or approximated to the view that the individual was under an obligation only to his own State and could rightly ignore the interests of anybody outside it, while some of the people outside it was a positive duty to hate and ill-treat either for instrumental reasons or because of some mystical conviction of their wickedness, as in the case of the Jews. It is easy to see how the combination of these views led to war, and they would be about as likely to do so between totalitarian States as between totalitarian States and democracies. Fortunately, the conflict with Russia is without these additional aggravations, serious as it is in any case. But in both conflicts the main issues are essentially ethical. It would be difficult to find a statement less true than that politics has nothing to do with ethics.

CONFUCIUS: HIS LIFE AND TEACHING

Professor HOMER H. DUBS

The third of October, 1949, was the 2,500th anniversary of Confucius' birth. This date has been under dispute for more than 2,000 years. Early and reliable accounts state that the birth was on a certain day of the Chinese sixty-day cycle and that it was fifty days after an eclipse of the sun. But those same accounts list eclipses of the sun in two successive months, something that is impossible in China. Only recently has any one bothered to calculate which eclipse actually occurred and discover that, in a period of twenty years before and after the birth, only one eclipse of the sun occurred on that day of the cycle and was visible at Confucius' birthplace. So this date can be fixed accurately by modern scientific methods.[1]

The tardy knowledge of this date is typical about our knowledge of Confucius. It has long been recognized that he was one of the world's greatest men. But important incidents in his life have been neglected and his teaching has been misunderstood for these thousands of years. The reason is simple: he was pronounced to be a sage and the greatest of the sages by Mencius, less than two centuries after his time. Now a sage is supposed to be inerrant, so that he cannot fail in anything he tries to do. Hence the political career of Confucius became distorted. Moreover, he became the great authority for the Confucians. Then each Confucian philosopher, and some Daoists too, read into Confucius' teaching the beliefs that this philosopher wanted to be accepted, because by putting them into the mouth of the great authority, these teachings also became authoritative. So the real teaching of Confucius became distorted anew each time a new Confucian philosophy appeared. Many sayings were put into his mouth which he never could have uttered. During the last five hundred years his teaching has been interpreted in accordance with the medieval Neo-Confucian philosophy, which in some ways is widely different from what Confucius thought. Consequently it is necessary, before we can begin to discover what sort of a person Confucius was or what he taught, to make a thorough and careful examination of the available evidence. Such a proceeding, however, takes very much time and care.

Here I shall not bother you with such preliminary matters, for they would occupy us much too long. I shall merely attempt to summarize the conclusions to which years of study have led me. If my account appears different from those that you have heard, please do not think

[1] H. H. Dubs, "The Date of Confucius' Birth," *Asia Major*, N.S., vol. I, 1949, part 2, pp. 139–146.

that I am ignorant of those views or have failed to consider them. I have tried to keep abreast of work on Confucius and believe that these other views are misunderstandings.

First, what sort of a man was Confucius in his active life? He was the son of a brave fighter and administrator, who had become the governor of a city and county in the state of Lu, located in northeastern China, in the present Shandung province. Lu considered itself to be the most civilized of Chinese states. Perhaps it was. At that time occupations were hereditary. Confucius came of a clan that hereditarily held government office—a sort of civil service nobility, ranking just below the titled nobility. He was orphaned early in life. When he came of age, he was given a quite minor government post, being made the keeper of the public granary, later keeper of the public fields. To supplement his income, he took private pupils. He made quite an impression by his teaching, for we hear that young people from the best families in the state came to him and that he finally acquired the reputation of being the most learned person in the country.

But Lu was not a peaceful place. Its ruler was a duke, but the army was controlled by three viscounts, who were the duke's cousins. They were also the three hereditary ministers of the state. There was continual friction between the duke and the viscounts. There were also feuds between the viscounts. When Confucius was thirty-five, the situation came to a head when Duke Jao made a sudden attack upon the prime minister, Viscount Ping of the Ji clan, and captured him. While the duke was gloating over his victory and debating whether he should kill his cousin, the other two viscounts collected their forces and rescued Viscount Ping. Duke Jao had to flee and died in exile. Confucius followed Duke Jao into exile. That establishes his political sympathies. He was a legitimist, who would have defended such a person as King Charles I. He is sometimes called a democrat, but this act establishes him as an upholder of duly constituted royal authority.

Confucius soon returned to Lu, for the duke was really a worthless person. But Confucius refused to take office under Viscount Ping, who had usurped the ducal authority and power. Instead he quietly resumed his teaching. He seems to have been the first professional teacher of higher subjects in China—a profession which Confucians have ever since esteemed and aspired to. Because Confucius was a great scholar, scholarship has ever since been esteemed in China more than anywhere else in the world. Until quite modern times, there were more books in China than in all the rest of the world. Confucius has made a deep impression upon his country.

Thirteen years later there was a worse civil disturbance. Younger members of the ministerial clans, under the leadership of an adven-

turer, Yang Hu, plotted to kill the three viscounts and take their places. The plot was discovered at the last minute, but it took half a year of hard fighting before this rebellion was put down. This experience seems to have convinced the rulers of the state that Confucius' teaching of uprightness and loyalty was badly needed. So he was summoned to office. There was then a new duke and a different viscount of the Ji clan, Viscount Huan. So Confucius accepted.

In typical Chinese fashion, the scholar was first tried out as the administrator of a city. After a year, he was brought to the court and given the highest position open to a commoner, being made Director of Crime (*Sz-kou*). That year he distinguished himself at a meeting between the Dukes of Lu and its larger neighbour, Tsi, and showed himself a man of boldness, prompt action, and forethought.

Then he put forward his plan for restoring peace to the state—which was that the three viscounts should restore to the duke the actual government of the state and hand over to him their military power, dismantling the fortifications of the city castles upon which their power depended. This plan had from the outset little chance of success. Never in history has a noble in undisturbed possession of military power willingly given up that power and dismantled his fortifications. But it was the only way that continual civil turmoil could have been avoided—by concentrating the power in the legitimate ruler. Confucius knew the risk he was running—failure would ruin his career. But he felt it his duty to run the risk, for only in this way could his country be restored to peace and good government.

It speaks well for Confucius that, supported by his pupils and the minor nobility, his plan was adopted and agreed to by the three viscounts. But they were intensely jealous and suspicious of each other. After one had dismantled his previously rebellious castle, Viscount Huan tried to evade his agreement by secretly ordering a force of his men to attack the capital, possibly to kidnap Confucius. But Confucius was not caught napping. He put Viscount Huan in a position where the viscount must openly support this raiding force or have it defeated. If he did so, he would confess that he was rebelling against the duke and violating his agreement—an attitude that would set the burghers of the capital unitedly against him. The viscount did not dare to take the risk and the attack failed. Then the viscount, much against his will, had to dismantle his own city-castle.

But Confucius had angered the prime minister and made him the laughing-stock of all China—a bold warrior had been put to shame by a mere scholar! The third viscount point-blank refused to honour his agreement. The duke could not take this third fortress by siege. Confucius' life was now in danger. He had to flee the state and could not return for thirteen years until Viscount Huan had died and a disciple who had done the state a signal service induced Viscount

Kang to invite Confucius back. He died in Lu five years later, on the fourth of March, 479 B.C., an old man in his seventy-third year.[1]

This attempt to reform the government of Lu shows that Confucius had a very high degree of diplomatic ability, high courage, and a willingness to sacrifice his own future and possibly his life for the welfare of the country. The remarkable fact is not that he failed, but that he came within an ace of success. Had the third viscount not been so entirely careless about dishonouring his oath, Confucius would have been successful. We can only esteem him as a far-sighted statesman of the first rank and a man of high moral and intellectual character. His followers have honoured the tradition that Confucius set—that a cultured man's highest duty is to his state and that he should exalt moral idealism in government as well as in personal conduct. The service of the state has been the great Confucian ideal and duty.

We come now to Confucius' teaching. He did not profess to be original. As a matter of fact, he did not originate the moral idealism that he taught. While however he had a deep reverence for tradition, yet he could not bring himself to believe that the great men of ancient times had taught anything less than the highest ideals. So Confucius actually read his own high ideals into the teachings of ancient Chinese, and then taught them to his disciples. This may have been self-deception, but it was also idealism. Furthermore it was effective and impressive teaching. In his time, no other except an appeal to the authority of the great past could have produced immediate results. Confucius influenced his age and subsequent times, not only because of his own high character and teachings, but also because he asserted they were also the teachings of the greatest men in the past.

On two virtues Confucius laid the most stress: on *li* and *ren*. These two Chinese words are difficult to translate, first, because they have been interpreted differently in different ages, and secondly, because no single English word will translate them. The greatest mistake has been in attempting to interpret them in accordance with the way that later thinkers taught them. We must take Confucius' own interpretation, not that of others, who may have had different ideas.

The first of these virtues, *li*, may be conveniently translated as proper conduct or the rules of proper conduct. It was however a much broader term than what we mean by propriety. *Li* included matters of politeness, court etiquette, religious ritual, governmental practices and the state constitution, codes of conduct, and ethical principles. Perhaps the best interpretation is that a man of *li* lives in accordance with the highest code of conduct that can be expected of a true gentleman in a very broad sense. It is also more than mere conformity to a code, for Confucius required it to be heartfelt and

[1] "The Political Career of Confucius," *Journal of the American Oriental Society*, vol. 66, 4, Oct., 1946, pp. 273–282.

sincere. It represents Confucius' loyalty to the established order, but it also includes his criticism of the existing order in favour of an ethically ideal order. For example, it justified both Confucius' following of the criminal duke into exile and also Confucius' attempt to reform the actual constitution of the state in favour of a better one. Confucius was a gentleman of the best type and he prized gentlemanly conduct. We should not be surprised that he emphasized it in the virtue of *li*.

The second of his two important virtues, *ren*, was a newer conception, possibly original with Confucius. He found this word used by the great founder of the state of Lu, the Duke of Jou. This duke once described himself as a man of *ren*—meaning thereby that he was a lord who was graciously kindly to his subordinates. This virtue Confucius took as fundamental. He broadened it to mean love for others and once equated it with the ordinary word for love, *ai* (*An.* XII, xxii). Today this word is often translated by such terms as "human-heartedness" or by some other term than "love." "Human-heartedness" was Mencius' interpretation. This word however has little concrete meaning. In view of Confucius' own definition, I see no reason for following Mencius, and shall tranlate it as "love" or "benevolent love."

Confucius made love for others the highest virtue for human conduct. He enunciated it in his statement, "Do not do to others what you do not like yourself," a rule that is negative only because Chinese style prefers a negative to a positive statement. Elsewhere Confucius shows that he means by this statement almost what we mean by the golden rule. Two other great teachers emphasized love as the central virtue—Jesus of Nazareth and the historic Buddha. Confucius must be ranked among the greatest of moral teachers.

If we want to know what Confucius meant by *ren* as the central virtue, we should recall St. Paul's statement, "Love is the fulfilment of the law, i.e. love for others includes the whole of virtue. So Confucius understood *ren*. Indeed, *ren*, in some of his sayings, means merely "perfect virtue." Confucius had the highest of moral ideals.

But Confucius was also a man of his own time. China was a feudal country in which a person's duties to others varied with his rank. A vassal has not the same duties as a lord. Confucius was no democrat. In a feudal society there are no equals. For him, *ren* was the attitude of an ideal ruler or an ideal father to his subjects or children. *Ren* is furthermore qualified by social relationships—one has different and stronger duties to those closer to oneself. So *ren* is not an equal love to all, but a graded love. A son, for example, should not report his fathers' misdeeds to the authorities, but must in love shield his father. Confucius taught a special love to one's own family and to one's own state. This graded love is a defect in Confucius' ethics. It was remedied

by the great medieval Confucians, but it remains as a permanent feature in Confucianism. I suspect that it is also a feature in the conduct of most persons in Christian countries. It shows that Confucius was not only a great moral teacher, but also a man of his age—a feudal age.

In addition to proper conduct and love, Confucius also taught various other virtues, especially loyalty, trustworthiness, wisdom, rightness, a sense of shame, courtesy and humility. A man must not put himself forward. He must wait until others put him forward and then he must decline an honour when it is first offered to him. Only when an honour is repeatedly offered in spite of his refusals may he accept it. Confucius summed up his conception of the ideal moral life in the notion of the true gentleman or ideal lord, the *jün-dz*. A true gentleman seeks constantly to progress. He is modest and efficient, courageous, sociable, capable in dealing with large problems. His fundamental quality is love for others.

When thus we have surveyed Confucius' own teaching, we must confess that he was one of the world's greatest moral teachers. He has influenced China profoundly and much of China's greatness must be traced back to him.

Confucius' religion was equally profound, although he spoke about it as little as did Socrates. Since he was a great authority upon *li* or proper conduct, he was expected to teach religious rites, which were a part of *li*. He did so, but in a non-committal manner. Religious rites had been laid down by the great sages of past ages, who were the authorities, so these rites must be carefully and exactly performed. But such rites have no power to move the gods to any favouritism to the worshipper. We do not know whether Confucius did or did not believe in the existence of the popular gods or spirits. But we do know that he believed at most that they were merely agents of the highest god, Heaven. The gods or spirits, if they exist, act merely as Christians believe that angels act. Confucius said that if one has offended Heaven, it is useless to pray to any other god for aid (*An.* III, xiii, 2). There is, then, only one effective god in the universe, Heaven (*Tien*), who was also called the Lord on High (*Shang-di*). In a polytheistic age, Confucius was a monotheist. This supreme God, he believed, had sent him to teach his people. He also believed that God would protect him as long as God needed him (*An.* VII, xii). Such a religious attitude stamps Confucius as possessing an extraordinarily deep insight into the fundamentals of religion. For it implies a belief, not only in one supreme God, but also in his complete goodness and his providential care over men. It is fundamentally the same as the Christian belief in a personal, moral, providential God, who makes men his instruments and protects them in their work.

The foregoing is perhaps sufficient to indicate the sort of person

Confucius was. A man of high ability in many lines—a great statesman who was both courageous and high-minded, he sacrificed a successful political career to his state's good. A successful teacher and eminent scholar, he made China the country that has honoured scholarship more than any other. A man of deep insight into morality, he proclaimed the highest of ideals—a man must live by the code of complete gentlemanly conduct and by love for others. Even though he admitted that such love should be graded, in his own conduct such a graded love led to no defects. In religion, he rose to heights rarely equalled in China, for he was far ahead of his own time and of later ages. He was truly one of the world's greatest men, a treasure to his race and to others.

INDUCTION AND PROBABILITY

H. R. F. HARROD, M.A.

It is the purpose of the following pages to reconsider the basic problem of induction. According to Hume the concomitance of A with B on one or more occasions gives no valid presumption that A will be accompanied by B on any other occasion. The data of experience may give rise to an association of ideas or set up mental habits, but they provide no reasonable grounds for expecting similar concomitances or sequences in future. If this is correct, we have no starting point for the formation of any valid opinions about matters of fact; we remain ice-bound in a region of total scepticism.

Taking this impasse seriously, J. M. Keynes attempted to rescue us from it by his hypothesis of limited independent variety in nature, which provided an initial prior probability, albeit a very low one, for empirical propositions;[1] on this basis the findings of experience, if favourable, could be used to give corroboration and eventually to raise the probability of a proposition to an interesting level. Ramsey and, on somewhat different grounds, Nicod[2] were able to show that this hypothesis was insufficient to do the work required of it, and Keynes' attempt at rescue must be deemed to have been abortive.

Faced with this initial difficulty, Professor Jeffreys has sought a different way of escape. He claims that higher initial prior probability may be assigned to simple than to more complex laws. While I shall endeavour to show that Professor Jeffreys is correct in supposing the notion of simplicity to play a fundamental part in establishing the validity of inductive generalizations, it appears altogether unsatisfactory to entertain an *a priori* preference for simplicity. We can derive nothing to our purpose from the alleged simplicity of nature, as already demonstrated by science, for that would involve assuming existing scientific generalizations to be valid, the very point at issue. *A priori* the laws of nature may quite as well be very complex as simple. To establish his case Professor Jeffreys falls back on reasoning of a pragmatical kind: scientists do in fact prefer a simple to a complex law, when either accords with the phenomena equally well, and scientists have achieved great successes. This vindication is too easy, and in effect repudiates the final arbitrament of logic.

The following attempt to reconstruct the theory of induction is

[1] *Vide: Treatise on Probability*, Ch. 22.

[2] *Vide: Foundations of Geometry and Induction*, pp. 266–281.

divided into three parts. The first seeks to provide a logical basis for what used to be known as the principle of experience. It makes use of a probability principle. By way of corollary it can be proved by inverse probability that memory is a valid vehicle of information. The second part is concerned with the proof of quantitative laws of nature by the Method of Concomitant Variations. The third part is concerned with generalizations which depend upon the Method of Agreement, and assigns this method to its proper sphere. I have nothing to add about the Method of Difference, save to say that its importance in Inductive Logic appears to me to have been greatly exaggerated. The arguments of the second and third parts depend on what I take to be the inverse probability principle.

1. The Principle of Experience and Primitive Induction

The principle of experience, put very generally, claims that things having been thus and thus in the past is a good reason for supposing that they will also be so in the future. Locke boldly claimed that our knowledge of nature depended on this principle, but Hume, while agreeing that there was no other source of such knowledge, challenged its validity.

Logicians seeking to examine the principle and to put a fine point upon it often bring forward the Method of Agreement as a leading exemplification. We are asked to consider how far and in what conditions the conjunction of qualities A and B on a number of occasions gives evidence for a generalization about them. We are then quickly whisked along to the Method of Difference. In my judgment this procedure puts us on the wrong track. Attention should first be concentrated upon the existence of uniform tracts of experience.

In order to illustrate the working of the principle of experience at a fundamental level, we may suppose a sentient being to move along a path of uniform texture about the length of which he has no information whatever. Its uniformity may lie in its hardness, roughness, colour, etc., within some limits of tolerance, and be perceived as uniform by contrast with its surroundings on either hand, which may be heterogeneous. I assume him to treat his memory about his progress as valid and shall revert to this point. I assume, illegitimately, that he has an accurate time sense; but the argument would hold sufficiently well, if his time sense was rough. Let us endow him with an inquiring mind and suppose him to ask without ceasing whether the path will continue into the future for at least $1/x$ of its past length. Let him always answer the questions in the affirmative. We have to consider whether these answers will be correct. The form

in which the question is put enables us to give a tautological judgment about the answers. He will be right x times for every once that he is wrong. Define (*provisionally*) the probability of a proposition being true when a proposition (or group of propositions) having a certain degree of evidential value in its favour is true, as the number of times a proposition is true when such evidence is present out of the total number of times such evidence comes to light. The evidence in this case is simply having travelled along the path for a period. On this basis we can assign to the traveller's affirmative answers an absolutely precise probability, viz. $x/x + 1$.

Two points may be noticed at once. (1) Provided that the traveller is modest in his affirmation, i.e. gives x a high value, he can gain a correspondingly high degree of probability for his proposition. This is an extremely important point to which we shall revert. It means that the principle of experience is to be relied on for predictions, provided that the length of extrapolation is modest in relation to the length of the experience. (2) The precision of the probability depends on the assumption that the affirmation is made continuously from the beginning onwards. If the traveller only gives an answer to the question once and again, nothing definite can be asserted about its probability as defined.

In order to extend the argument to the case where the question is only put occasionally, we have to enter territory familiar to probability theorists. Let the traveller have a large number of experiences of proceeding on paths of unknown lengths (or let a large number of travellers have such experiences); let inquiries be made from time to time. According to accepted doctrine, if the number of inquiries is sufficiently large, they will be equi-proportionally dispersed as regards their positions in the various paths, and the ratio of $x/x + 1$ will exactly measure the ratio of the number of correct answers to the total number of answers.

Mr. J. O. Urmson has observed to me that the formula overstates the amount of confidence a traveller could have in the continuance of his own path, since he is conscious of having already behind him a part of the range of his path in which affirmative answers were true. From the point he has reached onwards a smaller proportion than $x/x + 1$ will be true. In relation to the evidence at his disposal the probability of being right is the average of all the ratios of true future answers to all future answers of those who have already accomplished parts of their journeys.

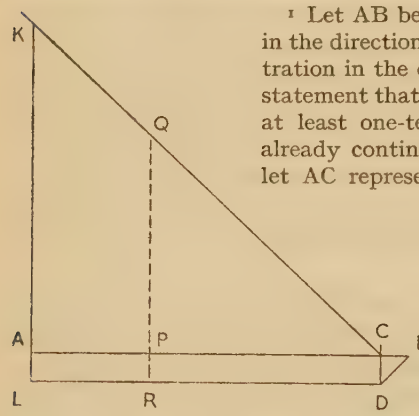
If this argument is correct, it is necessary to reduce the probability somewhat. For every position on the path the ratio (r) of true answers to all answers from that point onwards has a specific value, which, however, is unknown to the traveller. While it is impossible for any traveller to assess the value of his own r, the average of all

values for r for all travellers can be assessed and is in fact $x^2/(x+1)^2$.[1] By making x sufficiently large (i.e. the extrapolation sufficiently modest) a high probability can always be achieved. I call the use of this mode of reasoning primitive induction.

It is to be observed that this formula implies that all paths are of finite length. If in fact some paths are infinite in length, then the value of the probability is increased. Therefore the assumption of finite paths is a "safe" one in the attempt to vindicate induction and will be maintained in what follows.

The principle embodied in this formulation is identical with that in virtue of which we say that if an *unbiased* die is tossed a great many times, it will show each of its facets an equal number of times. Divide all uniform paths into an equal number of sectors called first, second, third, etc. I have assumed that an equal number of inquiries will be made in each sector, viz. in the first, second, third, etc. The formula is based on the equality in the distribution of the inquiries among the sectors.

This is not the place to examine the grounds of the probability principle itself. It is possible that it is based on a tautology. If the upturns of the several facets do not tend toward equality, we say that the die is biased, or, more generally, that a specific law is at work governing the distribution of upturns. Equal upturn is merely



[1] Let AB be the path the traveller has to travel—in the direction from A to B. Let us suppose, for illustration in the diagram, that he wishes to consider the statement that the path will continue for a distance of at least one-tenth of the distance for which it has already continued. Divide AB into eleven units and let AC represent ten of these and CB the other one. Throughout the range of the journey from A to C the statement will be true and thereafter it will be false.

Let KL, drawn at right angles to AB at A, be equal in length to AB, and let KA be equal to AC and AL to CB. KA thus represents the distance for which the statement will be true, if it begins to be made at A and AL the distance for which it will be untrue. This shows the initial frequency of 10 : 1. Let P be any point on AB. QP represents the distance for which the statement will remain true *from P onwards* and PR (= AL) the subsequent distance for which it will be false. It is required to find the average value of QP/QR for *all* possible values of P. When P lies to the right of C, QP = 0. The average value is equal to the ratio of the area of KCA to the whole area KCBDL.

Let $\frac{1}{x}$ be the fraction of distance already experienced which the traveller wishes to predict as continuing in future. (In the diagram $\frac{1}{x}$ is $\frac{1}{10}$.) The ratio of KCA to KCBDL is

$$\frac{\frac{1}{2}x^2}{\frac{1}{2}x^2 + x + \frac{1}{2}} = \frac{(x)^2}{(1+x)^2}$$

the residual case where there is no specific law—there must either be a specific law or not. Now without experiment we cannot know whether the die is biased or not. Consequently in such a case the probability principle is of little use for prediction.

But in the case of the traveller—and perhaps only in his and analogous cases—the matter is altogether different, for by hypothesis there is no bias, i.e. no law connecting inquiry with position on the path. The inquiry is a mental event. It may be occasioned by some change in the heterogeneous environment or by the traveller's internal development. Since by hypothesis his position on the path is unknown both to his conscious and to his unconscious mind, there can be no law connecting his inquiry with his position on the path. Thus we are entitled to assume an equi-proportional distribution of inquiries.

Writers on probability have made greater or less play with what is known as the Principle of Non-Sufficient Reason. This states that if there are n alternatives one of which must be true but about which we have no information whatever as to which is true, there is $\frac{1}{n}$ probability that each is true. I judge this to be highly suspect. Indeed, on the form of the Frequency Theory which I have stated it does not make sense, for in order to verify it by seeing which alternative was true on a great many occasions, one would have to be able to arrange all of a large number of different sets of the alternatives in a serial order, and this is clearly in general impossible. Yet the Principle has its appeal. No less an authority than Professor Jeffreys goes so far as to assert that "realism" and "idealism" are "both admissible hypotheses and we must take their prior probabilities as $\frac{1}{2}$"![1]

I suggest that in general it is invalid, but that its appeal is due to its being valid in one particular sphere, namely that with which we are at present concerned. If it is known that a phenomenon must appear in one or other of a finite number of places (or forms) and also known that there is no law connecting it with any one of them, then if there are a great many occasions of appearance relative to the number of places it will appear an equal number of times in each place. And so with the traveller's inquiry in relation to his position on the path.

Since x is a fraction of the distance already travelled, the mileage represented by x increases as the journey proceeds and the probability that the path will extend another mile increases. This has an air of paradox and encounters strong mental resistance. The strangeness is due to the fact that in most of the inquiries we are accustomed to make in our present circumstances, we have prior information about the frequency distribution of the lengths of the types of experience which we happen to be investigating; this, of course, entirely

[1] *Theory of Probability*, p. 353.

alters the conditions and nature of our inquiry. In the present discussion we are concerned with those initial inductions which man had to make when he was in a condition of primordial ignorance, and entirely lacking in the support to be derived from prior probabilities.

Call the probability that the path will continue for a mile p_m.[1] This increases as the journey proceeds. Call the ratio of true future answers to all future answers that the path will continue for a mile r_m. This falls as the journey proceeds, and of course the traveller knows that it is falling. This should not lead to any lack of confidence in the rise of p_m. Let us suppose that at each point the traveller uses p_m which he knows as a mode for estimating r_m which he does not know. As p_m rises with the increase of distance he reconciles this with his knowledge that r_m is falling by *continually revising upwards* (in the light of the evidence supplied by the continuance of the path) his *earlier estimates* of r_m.

In the foregoing arguments no assumption has been made about the frequency distribution of the lengths of paths. The formula holds whatever the distribution may be and whether it is regular or irregular. $x/x + 1$ is the ratio of all true answers to all answers. It is of some interest to inquire what the frequency distribution of paths would have to be in order to make this ratio hold not only of all answers of all travellers, but of all answers given by each class of travellers, viz. those who had travelled just one mile, just two miles, etc. It happens that this is an extraordinarily simple one. Let L stand for the number of miles travelled and m for the mortality rates of paths, viz. the number of paths terminating between n and $(n + 1)$ miles divided by the number of paths of n miles or more. Let m_L be the mortality rate at the end of L miles. Then if

$$m_L = \frac{1}{L}$$

the simple form of the probability formula will give the right answer not only for all travellers in general, but also for each class of travellers, viz. those who have travelled one mile, two miles, etc.

The reader may be encouraged in his grasp of the general principle by an example. If one traveller has travelled two miles the complex formula only gives a low value, viz. $\frac{4}{9}$, for the continuance of another mile; this seems sensible. If he has travelled for 100 miles it gives a high value, viz. 1/1·0201, for the continuance of another mile. This appears to be sensible, as soon as we think of possible frequency distributions. For the actual ratio (r_m) to be as low as $\frac{4}{9}$ after 100 miles

[1] This is equal to $\frac{(\text{number of miles already travelled})^2}{(\text{number of miles already travelled} + 1)^2}$

one would have to assume one of two things. (1) It might be due to a kink in the mortality rate just after the hundredth mile. There may indeed be such kinks. But it is illegitimate to assume—and when one generalizes the assumption self-contradictory—that such a kink is near the point of inquiry. (2) If, on the other hand, the mortality rate has been regular (e.g. constant per mile) one would have to assume that the traveller is on a path of quite exceptional length (e.g. that if m had been constant per mile the traveller's path was exceptional in the sense of there being only one in every $\left(\frac{9}{4}\right)^{100}$ paths as long as the one in question). Both alternatives are unacceptable.

Although in the present phase of man's intellectual development primitive induction is seldom useful for the acquisition of new knowledge, it still plays its part in increasing our confidence in that which we already have. One achievement of science, using this and other methods (two of which are shortly to be discussed), has been, by classifying our experiences in new ways, to make us aware of continuities stretching over far longer portions of time than were within the ken of primitive man. The experience of primitive man in relation to the stable nature of land, sea and heaven and the periodicity of sunrise did not, even after he had established some reliability for the testimony of others, stretch much beyond his own span of life. Thus for him, thinking as a rational being, the probability that the "end of the world" would not come within a decade was by no means high. The same arguments by which we can hold the basic laws of physics to be nearly certain point to their having operated continuously for millions of years; this by primitive induction makes it highly improbable that they will cease to operate within a decade. The better the evidence for the main physical laws having long continued to operate and the longer the period of their continuance in the past, the greater is the confidence with which we can look to their further continuance within our lifetime. There can, of course, be no certainty; and if we seek to probe forward into a far distant future, the probability of further continuance falls right away.

In the foregoing argument I have assumed that memories of a previous continuance are valid. I know of no *a priori* reason for holding that memories are not purely chimerical. In order to justify the validity of memory it is necessary to use inverse probability.[1] I take the argument to be as follows, although it does not agree precisely with the calculus of inverse probability as developed by mathematicians. Consider the hypothesis that memories are (usually) valid. The truth of the hypothesis agrees well with my experience

[1] For a full treatment of the matter here briefly discussed in this paragraph, see *Mind* (1942, January).

in being able on frequent occasions to predict the future by simply extrapolating into it past continuities. Next suppose that memory is not valid. Consider an event within present experience. It is desired to predict the next piece of experience immediately adjacent to it. *A priori* this may be one of many thousands of different things. If I have no evidence at all what it will be, I will only make a correct guess once out of many thousands of attempts. If I guess correctly quite often, this is an improbability the chances against which must be reckoned in more than astronomical figures. The hypothesis that memory is (usually) valid, which is in itself unobjectionable, provides an escape from this gigantic improbability; and that is the sole valid reason for entertaining it.

I suggest that nothing is added to the force of this argument by claiming some low prior probability for the hypothesis that memory is valid. For this reason (which applies also in the following sections) it appears to me that the traditional statement of the inverse probability law, which requires some finite prior probability for the proposition to be established, is in need of revision.

2. Laws of Nature and the Method of Concomitant Variations

In discussing quantitative laws, Professor Jeffreys holds that we depend on the ultimate principle that a simple law has prior probability by comparison with a complex law. This is a leading theme throughout his *Scientific Inference*, and is re-stated emphatically in his *Theory of Probability*.[1]

I agree with Professor Jeffreys in thinking (i) that the attempt to justify the preference for simplicity in terms of convenience will not hold water, and (ii) that simplicity as such plays a part of central importance. Where I disagree is in holding that this preference for simplicity is not an *ultimate* principle; I hold it to be deducible from the inverse probability principle. In defending it as an ultimate principle Professor Jeffreys falls back on the bald assertion that it is employed by scientists and that without it they could not get on with their job. Such a defence is, on the face of it, suspect. Simplicity may have ultimate independent value in aesthetics and a practical value in most fields, but in logic its credentials must be examined.

I owe the clue to what follows entirely to the study of Professor Jeffreys; what is surprising is that he did not pick it up himself. He points out that if variables can be related alternatively by a simple law or by a complex law, scientists would prefer the former, not merely for convenience, but because they deem the simple law more likely to "be correct for other values of the variables." Professor

[1] Pp. 3–5.

Jeffreys accepts this verdict, but makes no thorough investigation into what is at the back of it. He considers two phenomena, which it is desired to connect by law, and for which we have six observations of y for six values of x, the latter in serial order.[1] These six observations can be related to the values of x by an infinite number of possible laws, one of which happens to be a very simple one ($5y=x^2$). Let us suppose that in fact y is unrelated to x and that if we took many millions of observations the values of y would be random in relation to x, all values of y being equi-proportionally distributed among the several values of x. Let us confine the range of y to the values actually observed (0 to 180) and suppose our measuring apparatus to be accurate only to the nearest whole number. Six observations of y might consist of 180^6 possible sets.[2] If we named a specific set of six numbers in advance there would be a ($180^6 - 1$) to 1 chance against that being the actual set observed. Yet the fact that probability is so loaded against the set we actually turn up is of no significance, for we must turn up some set, and whatever particular set we turn up has the probability equally heavily loaded against it. In a well-shuffled pack there is a 51 : 1 chance against drawing the five of hearts on top; yet, if we draw it, that does not incline us to think that the pack has been tampered with, since there would be a 51 : 1 chance against drawing any particular card and the card we draw must be a particular one.

The same reasoning applies to a law of sufficient complexity. I follow Professor Jeffreys in postulating that laws can be classed according to their complexity and that classes containing laws of great complexity contain a correspondingly great number of particular laws. Thus if we have a law of such complexity that other laws of equal complexity could be devised to agree with every one of the 180^6 possible sets of numbers, the fact that this law agreed with the observations would not be significant, since, whatever the observations, one or other law of an equal degree of complexity could be found to agree with them. Thus if the value of y is in fact unrelated to x, none the less each time we take six observations we shall find a law of this degree of complexity to relate them to x. Thus the fact that our actual observations conform to such a law is no evidence for the unobserved values of y.

The matter is entirely different when we come to a simple law. If x is unrelated to y there are ($180^6 - 1$) to 1 chances against the observations obeying the law $5y = x^2$. This by itself has no significance for the reasons already explained. But there are extremely high chances against the observations corresponding to any law at all of equal simplicity-ranking. What matters, therefore, is the im-

[1] *Scientific Inference*, pp. 37–41.

[2] A power is used since each place in the set is distinctive.

probability, on the assumption that y is unrelated to x, of getting observations obeying *any of the laws of equal simplicity to that found.*

To recapitulate. On the hypothesis that y is unrelated to x, there is a very high improbability of getting any particular set of six observations. But since the improbability of any other set is equally great and one set must be chosen, the occurrence of an "improbable" set is necessary and therefore not significant. There is a very high improbability of the observations conforming to a particular complex law; but it is quite probable that they will conform to one such complex law or other; therefore it is quite probable that one or other high "improbability" will occur and its occurrence has no significance. There is a very high improbability of the observations conforming to a particular simple law; but—and here is the difference—it is also highly improbable that they will conform to any simple law whatever. Therefore their conformity with the simple law has high significance. This is the logical basis of the so-called preference for simplicity; it is not an independent principle but a corollary of the inverse probability principle.

This argument is quite independent of the prior probabilities, if any, that may be assigned to the several laws. In order to justify preference for the simpler law, Professor Jeffreys deems it necessary to give it higher prior probability. He would arrange the prior probabilities of all possible laws from simple to complex in a convergent series, whose sum is 1 (= certainty), so as to insure that simple laws have prior probabilities that are more than infinitesimal. I suggest, on the contrary, that there is neither basis nor need for this assumption of prior probability. (Incidentally the question may be raised as to what prior probability should be assigned to the absence of any law. Just a little more than the presence of the most simple law? How much more?) I suggest that there are no initial prior probabilities. There may of course be prior probabilities—and often are—in relation to a particular investigation; but these rest on the progressive acquisitions of previous knowledge stretching back to a time when there were none. No probability calculus resting on the assumption of initial prior probabilities is satisfactory.

How then shall we assess the probability of a simple law which agrees with six observations? The matter is made somewhat easier for us by the fact that in the case of many problems the instruments for recording observations only give accuracy to a limited number of places—these may be decimal places or numbers of billions, etc. Let there be four places. We can calculate the total number of six sets of numbers each containing any four digits. If we can then find the number of six sets of numbers each containing four digits which obey any law of equal simplicity-ranking with the law observed, the ratio of the former to the latter, say, a billion to one, measures

the improbability of the observation if, in fact, there is no law relating y to x.

I do not know whether it is in the power of mathematics to establish such a ratio with precision. If not, a scientist may make a rough guess of the order of magnitude involved. If it is objected that it is unrealistic to base an argument on modes of calculation that cannot be actually performed, I would reply that it is no more so than Professor Jeffreys' method of assigning prior probabilities, the values of which, if only they existed, would be entirely problematical.

It would be tempting at this point to say that the probability of the simple law (in the absence of any competing law of lower but significant simplicity-ranking) is a billion to one. We cannot say so much. All we can say is that the hypothesis of the simple law involves no improbability while the hypothesis of its absence involves a billion to one improbability. To say that a hypothesis "involves no improbability" is not the same as to say that it is certain; if our calculus of probability does not make specific provision for the former statements, the calculus requires revision *ab initio*. Any attempt to assign a numerical positive probability to the simple law, by means of postulating a mythical prior probability, is to go beyond the facts of the case. Those facts give us reasonable confidence in the truth of the simple law and justify us in saying that it is very probable. This can be defined more precisely only by stating the improbability of what has happened on the assumption that the law is false.

How shall we deal with the infinite array of complex laws which also agree with the observation? Any law, which is so complex that a law of equal complexity-ranking could be found to agree with any set of six numbers with four digits each, has nothing to commend it. Its agreement with the actual observations is not improbable on the assumption that it is untrue. Therefore the assumption of its truth does not allow us to escape from any improbability.

A law of less complexity must be taken more seriously. If it is such that laws of equal complexity-ranking would agree with one in a thousand of all possible sets of six numbers, the hypothesis of its truth enables us to escape from an improbability of a thousand to one and has that to commend it.

What happens when such a complex law and a simple law both agree with the actual observations? The same procedure is necessary. We have to ascertain what proportion of all possible observations consistent with this complex law would agree with any law of equal simplicity-ranking with that observed. This proportion measures the improbability of getting the observations we do if the simple law is not true. The presence of such a competing complex law (which is not too complex) may reduce our confidence in the truth of the

simple law by reducing the magnitude of the improbability from which we escape by assuming its truth. None the less, we may expect the argument to weigh on the side of the simple law. If some complex law, of the same complexity-ranking as that which agrees with the observations, could be found to agree with any six observations consistent with the simple law, the hypothesis of the complex law would not allow us to escape from any improbability. The hypothesis of the simple law, on the contrary, enables us to escape from a high improbability.

A few extra observations will immensely enhance the probability of a simple quantitative law, by immensely increasing the improbability from which the hypothesis of its truth releases us. The number of sets of ten numbers of any four digits is immensely greater than the number of sets of six; but the number of sets of ten that will agree with any law of given simplicity-ranking is no greater; the improbability of getting the observations if the law is not true is correspondingly increased. We can soon raise this to a supra-astronomical magnitude. When the scientist achieves this position, he begins to speak as though this law was "certain."

It must be observed, however, that laws are only certain in this sense within the field from which the observations have been drawn. For their certainty depends on the high improbability of the observations, if the laws were not true within that field. If we wish to extrapolate beyond the field, we have to fall back on primitive induction.

If this account of the matter is correct, two points are worth noticing.

1. The concept of simplicity plays a key part, and Professor Jeffreys' intuition that it has essential importance is vindicated. But it does not play the rôle of an ultimate principle, and that is satisfactory, since such a rôle would be hard to justify.

2. I have not seen in treatises the notion that in order to weigh the probability which certain observations establish in favour of a law, one needs to know the proportion of all possible observations (viz. all possible numbers containing the relevant number of digits) that would agree with *any law of equal simplicity-ranking*. This notion is clearly of a most fundamental character, and, if correct, should occupy a central place in the theory and calculus of probability.

3. Recurrent Complexes and the Method of Agreement

The two instances that I have given of modes of induction have a feature in common to which attention must now be drawn.

It may be held that if we are totally ignorant about our environment we should hold that anything is as likely to happen as anything else. This would involve the application of the principle of equal

prior probabilities in its fullest form. Now this doctrine would not necessarily posit anything in particular about the nature of our environment, but could be justified by reference to our ignorance of it. But it might further be the case that our environment (or the whole universe) was in fact such that when any event, *a*, happened, the next adjacent event (in time or space) was equally likely to be any other event out of all kinds of events. This would be a universe of perfect chaos, which might properly be described as Heracleitan in character. Until we acquire information we have no reason to assume that the universe is not Heracleitan, and it at least provides a convenient starting point to suppose that it is.

We may revert to the traveller on a uniform path. Let the path be divided into sectors, each of which is of the minimum length discernible by the senses. By the Heracleitan principle, when one sector has been traversed it is equally probable that the next will consist of any one of a large number of forms. Since we are dealing with a minimum sensibile, the number of possible combinations of colour, shape and texture may be only moderate, e.g. 100. There would then be 99 chances to 1 in favour of the second sector being discernibly different in character from the first.

As soon as we have traversed a good many sectors and found them similar, we run into supra-astronomical improbabilities on the Heracleitan hypothesis. There would be a million million chances to one against only seven successive sectors (of minimum length) being uniform. If we persisted in the Heracleitan hypothesis, we should continue to regard each step which carried the uniformity forward as highly improbable and the total improbability of the whole path would soon become immense. We might be driven to the conclusion that we were probably in the presence of a phenomenon unique in the universe (assumed finite). But the fact of the matter is that we are soon guided by this improbability into abandoning the Heracleitan hypothesis, anyhow as regards our immediate environment, and in particular as regards this path. Instead we form the notion that—contrary to the Heracleitan hypothesis—we need not regard such a thing as a path as in itself a great improbability. We form the idea of a universe which may contain paths. The Heracleitan hypothesis may be a convenient approach, but there is nothing which compels us to adhere to it against probability.

It is only when we have emancipated ourselves from the Heracleitan hypothesis (which is identical with the Principle of Non-Sufficient Reason in its widest sense) that we can begin the argument outlined in my first section. We frame the idea of a class of "continuities" which may be investigated as such.

Similarly in a Heracleitan universe there would be no laws of Nature. If we found what seemed to be a law embedded in some

concomitant variations, we should have once again to pronounce ourselves in the presence of a staggering improbability. When the improbability becomes sufficiently great we abandon the Heracleitan hypothesis and treat laws as things which may or may not exist. We frame the notion that our universe may be such as to comprise laws.

I now come to a third example—the recurrences of complexes in nature. Consider the case of a swan. It may be that most swans have, say, a thousand characteristics which, within certain limits of tolerance, are the same. We may examine a swan by beginning with some part (*a*), and proceeding to that next adjacent to it (*b*). Since we are no longer considering minimum discernible sensibilia, we may well assume the number of possible bodies, each varying from the other by more than the observed limit of tolerance of roughly the size of the part under investigation to be, say, 10,000. Thus, if, having examined one swan, beginning with property *a*, we start with property *a* in the second swan, there is, by the Heracleitan hypothesis, a 10,000 to 1 chance against the next adjacent property being similar to property *b* in the first swan. There would be a $10{,}000^{1000}$ chance to 1 against the two swans having all the similarities which in fact we find. This may mean that it is unlikely that there are two swans in the whole universe, let alone upon the same lake. In the presence of the second swan, we abandon the Heracleitan hypothesis and form the idea that our universe is of a kind in which similar complexes recur.

Now consider our position, when, having adopted some procedure for examination, say working from the beak backwards, we have examined 500 characteristics of the second swan and found them similar to those of the first. On the Heracleitan hypothesis we are in the presence of a very great improbability, but still one not nearly so great as we shall be confronted with if it turns out that the second swan is similar in respect of all or most of the remaining 500 characteristics. Consequently we should still think it extremely unlikely that more than one or two of the unexamined characteristics were similar to the corresponding characteristics in the first swan. But once we abandon the Heracleitan hypothesis, our position is completely reversed. So far from holding it unlikely that most of the remaining characteristics will be similar, we hold it extremely improbable that most of them will be dissimilar. For at this point we apply the principle of inverse probability. If the second swan in fact resembled the first only in 500 out of 1,000 points, how unlikely that these should be the 500 which it fell to our lot to examine first! We should be right to be amazed at finding the remaining 500 characteristics all different. The improbability on Heracleitan grounds of the first 500 being similar leads us to frame the notion of a recurrent complex—just as on the other occasions considered we

framed the notion of a continuity and of a law—and, once having done so, we bring the principle of inverse probability into operation in an appropriate way. We cannot say that it is probable that all the unexamined characteristics will be similar, within the limits of tolerance found in the case of the others, since if there are a few differences these may lurk among the unexamined. A well-shuffled pack of cards containing 100 black and 4 red may well have the top 52 all black. But if it contained 52 black and 52 red, the top 52 would not be likely to be black. We are willing to put heavy money on that—quite reasonably!

It may be noted in passing that the theorists of induction are confronted with great difficulties when they consider how many times we have to find characteristic *b* accompanying characteristic *a*, before we can pronounce the law that *b* accompanies *a*. The Method of Difference is usually adduced rather unconvincingly. They commonly fail to specify whether *a* and *b* are attributes of a recurring complex. But this makes all the difference to the case.

Physics and chemistry deal with substances which have fewer characteristics than swans. But, if they lose in the number of characteristics, they gain in their properties having finer limits of tolerance. The finer these, the more improbable is the recurrence of the substance on the Heracleitan principle. Therefore if we find two bodies which have a small number of characteristics that are identical within fine limits of tolerance, we have a considerable confidence that we are in the presence of a recurrent complex. Consequently in regard to a characteristic not superficially visible, a small number of experiments may suffice to give high probability that the substances whenever found will be identical in regard to this characteristic also. We do not have to subject a body to every conceivable kind of reaction in order to convince ourselves that it is an instance of a given chemical element. This principle lies at the base of the "crucial experiment."[1]

The establishment of the existence of recurrent complexes by the method of inverse probability has relevance for a very important branch of philosophy—the question of the existence of other sentient beings. In the old days the main evidence on which we relied for our belief in them was the notion that it was impossible to account for the movements of living bodies save on the hypothesis that they

[1] An example of a generalization from only one instance by the Method of Agreement is the conclusion drawn from the observed bending of light rays on the famous occasion in 1919. We did not say that that bit of light might have bent, but other bits of light may behave quite differently. Owing to the extreme precision of the characteristics of light, we regard light, wherever it occurs, as the recurrence of an identical complex of properties, and are therefore confident in generalizing about its reaction to a neighbouring mass from one crucial instance.

were directed by conscious volition. This position is now much shaken. No doubt it is still an open question whether the motions of living bodies do or do not violate the laws of physics. But it would be a rash man who held at present that it was highly probable that they violate them. Our belief in the existence of other sentient beings would be uncomfortable and precarious if it rested on that alone.

There is only one further piece of evidence in favour of other consciousnesses, and it is on this that we now have to rely. Human beings are clearly recurrent complexes in the sense above defined. There are tens of thousands of characteristics in which most human bodies are similar, subject, in the case of some, although by no means all of them, to generous limits of tolerance. There is one, and to our knowledge only one characteristic, in regard to which we have made no examination, save in one case, namely the presence of consciousness. That we only know to be present in one instance of this class of recurrent complexes, namely our own. Thus the opinion that other human bodies are usually the homes of sentient beings rests upon the Method of Agreement, and is based on a single instance of the presence of the characteristic in question.

According to classroom doctrine this is the weakest conceivable case of induction. But in fact it is not weak at all. It is based on our decision to reject the Heracleitan hypothesis when we are confronted with complexes which have so many points of similarity, as to be immensely improbable on that hypothesis. This gives the notion of a "recurrent complex" a definite status. The boundaries of a recurrent complex are defined by the interlocking of its characteristics. Once we are satisfied that we are in the presence of a recurrent complex, we have to consider how many characteristics of one will be found in the other also. There is no great initial probability of any one feature being represented in the others. But if we make an exhaustive examination of almost all the characteristics and find them similar, then, by the inverse probability principle, it becomes increasingly improbable that those unexamined are not similar also. The presence of sentience in other bodies has not been and never can be detected. It would be very improbable that recurrent complexes, having so many thousands of features as human beings have in common, should differ solely in regard to the one which it is impossible to examine.

LOCKE AND THE PROBLEM OF PERSONAL IDENTITY

ANTONY FLEW, M.A.

THIS paper attempts to do three main things:

(1) To outline Locke's contribution to the discussion of the problem of personal identity, that is, the problem of what is meant by the expression "same person."

(2) To attack his proposed solution, showing that it is irredeemably wrong.

(3) To enquire how Locke was misled into offering this disastrous answer.

Locke's contribution to the discussion was fourfold: *First*, he saw the importance of the problem; *Second*, he realized that the puzzle cases, the "strange suppositions," were relevant; *Third*, he maintained "same" had a different meaning when applied to "person" from its meaning in other contexts; and, *Fourth*, he offered his much criticized solution of the problem.

First, Locke saw the importance of the problem. It is important because, "In this personal identity is founded all the right and justice of reward and punishment" (E.H.U., Vol. I, p. 459).[1] That is, it is never fair to blame nor just to punish the prisoner in the dock for murdering his bride in her bath unless the prisoner is the same person as he who did the deed. The same is equally true of the ascription of responsibility at the Last Judgment. Furthermore, as Locke clearly saw but never so clearly stated, questions of survival, pre-existence, and immortality, are questions of personal identity. The question, "Is Cesare Borgia still alive, surviving bodily death?" is equivalent to "Is there a person now alive, surviving bodily death, who is the same person as Cesare Borgia?"

But it might still be argued (and certainly would be argued, by those numerous contemporary philosophers who pray, with the Trinity mathematicians, that their subject may never be of any use to anybody) that all that has been proved is that some important questions are or involve questions of personal identity, and that it has not been shown that these questions demand a solution of the philosophic problem of personal identity. Perhaps psychical research can proceed without benefit of any philosophical analysis of "same person" just as many other sciences proceed satisfactorily with the study of so-and-so's without feeling handicapped by the lack of

[1] All references to Locke's writings throughout this paper are to A. C. Fraser's edition of the *Essay Concerning Human Understanding*.

philosophical analyses of the expression "so-and-so's." This analogy is misleading here. For it is precisely the cases studied by psychical researchers and parapsychologists, which raise both in them and in everyone who reads of their work, exactly those questions of meaning which it is the proper business of analytical philosophy to answer. When we are presented with the story of the "Watseka Wonder"[1] we ask whether the patient Laurancy Vernum really became the same person as Mary Roff. And then someone asks what we mean by "same person," and the fun and philosophy begin. Or, to take an example from Locke, "I once met with one, who was persuaded that his had been the *soul* of Socrates (how reasonably I will not dispute; this I know, that in the post he filled, which was no inconsiderable one, he passed for a very rational man, and the press has shown that he wanted not parts or learning;)" (I, p. 455). Perhaps this was a case which set Locke himself enquiring about the nature of personal identity. Anyhow it is sufficient if we have shown that the puzzle cases which are the stock-in-trade of some important enquiries inevitably and rightly raise the philosophic question of the meaning of the expression "same person."

Second, Locke was the first to realize that such puzzle cases are relevant. They present a challenge. Any solution to the problem must be able to do one of two things. Either it must consist in some sort of definition or set of rules, which will enable us to deal with all possible puzzles; either by telling us that "same person" is or is not correctly applicable; or by hinting to us what further factual information we require before we can know. Or else the solution must explain why the questions raised by the puzzle cases cannot be answered. Locke himself chose the first alternative, and answered all the puzzles he had invented in the light of his talismanic definition. For instance he tells us what would decide the puzzle of the man who claimed to have the same soul as Socrates (I, p. 460).

Third, Locke maintained that "same" is systematically ambiguous. "It is not therefore unity of substance that comprehends all sorts of identity or will determine it in every case; but to conceive and judge of it aright, we must consider what idea the word it is applied to stands for" (I, p. 445). It would not be relevant to discuss this general claim. It is enough to show that Locke is right at least in so far as he is maintaining that there are special and peculiar problems about "same" as applied to "persons." And this can be seen to be the case by the example of Hume, who thought he could solve the problem of the identity of things, but confessed himself completely at a loss as to "the nature of the bond which unites a person."

Fourth, we come to Locke's proposed solution. It is that X at time

[1] For this and similar cases, often very reminiscent of Locke's "strange suppositions" see William James, *Psychology*, Vol. 1.

two is the *same person* as Y at time one if and only if X and Y are both persons and X can remember at time two what Y did, or felt, or what have you, at time one. "Person" is defined as "a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places (I, p. 448). This is distinguished from the idea of "man," since, "ingenious observation puts it past doubt, that the idea in our minds, of which the sound man in our mouths is the sign, is nothing else but of an animal of such a certain form" (I, p. 445).| (Though elsewhere he tells us that it consists "in most people's sense" of the idea of "a body, so and so shaped, *joined to a thinking or rational being* (I, p. 448, my italics).) In Locke's own words his solution is that, "That with which the consciousness of this present thinking thing *can* join itself, makes the same person, and is one self with it, and with nothing else; and so attributes to itself and owns all the actions of that thing, as its own, as far as that consciousness reaches, and no further; as everyone who reflects will perceive" (I, p. 459). It would be as well to point out here that "consciousness" is not used by Locke in a clear or consistent way. Sometimes it seems to mean "self conscious" in that queer and dubious sense *not* equivalent to "embarrassed"; as when we read that "a being that . . . can consider itself as itself . . . does so only by that consciousness which is inseparable from thinking" (E.H.U., I, p. 448–9). Sometimes it seems to be the "consciousness" which is the opposite of "anæsthesia"; as when "self" is defined as "a conscious thinking thing which is sensible or conscious of pleasure and pain, capable of happiness or misery" (I, p. 458–9). But in his main statements of his position "consciousness" is equivalent to "memory," as can be seen from the words, "Could we suppose any spirit wholly stripped of all its memory or consciousness of past actions; as we find our minds always are of a great part of ours, and sometimes of them all . . . ." (I, p. 466). In the interests of clarity and conciseness we have used "remember" instead of "be conscious of" in our restatement of Locke's central thesis.

War on Locke's thesis can be made on two fronts. The traditional front was opened by Bishop Butler in his dissertation *Of Personal Identity*. "And one should really think it self-evident, that consciousness of personal identity presupposes, and therefore cannot constitute, personal identity; any more than knowledge, in any other case, can constitute truth, which it presupposes." It is absurd to say that "he is the same person" *means* that "he can remember that he is the same person." The absurdity is usually slightly masked since expressions such as "I remember doing, feeling, seeing something" do not contain explicit reference to the fact that what is remembered is that the speaker is the same person as did, felt, or saw whatever it was.

The second front consists in the charge that Locke is at the same

time both too strict in blackballing and too lenient in electing candidates; for in many cases where we would want to apply the expression "same person," his definition would not allow us to do so; whereas in some other cases where we should certainly regard it as inappropriate, Locke would have to claim that it was correctly applicable. Before developing this attack it is necessary to point out how two of the terms in Locke's definition are ambiguous. "Can" may be either "can as a matter of fact" (hereafter referred to as "can (factual)") or "can without self-contradiction" (hereafter referred to as "can (logical)"). There is also a more subtle ambiguity in "remember," which is best brought out by symbolic examples. "I know p" entails "p," whereas "He said that he knew p and he was not lying" does not entail "p." Similarly, "I remember p" entails "p," but "He said that he remembered p and he was not lying" does not entail "p." For just as it is possible to be honestly mistaken in a claim to know something so it is possible to be honestly mistaken in making a claim to remember something. When someone challenges a knowledge claim or a memory claim he is not necessarily, or even usually (in spite of the misapprehensions of certain philosophers to the contrary) challenging the claimant's integrity; he is much more likely (though this is not the only possibility) to be questioning the truth of the proposition said to be known or remembered. We shall therefore distinguish between genuine remembering, which necessarily involves the truth of the proposition said to be remembered, and honest memory claims, which do not. It is now time to ring the four possible changes on these alternative interpretations of "can" and "remember."

First, taking "can" as logical, and "remember" as entailing the truth of what is remembered, Locke's definition could (at the cost of ceasing to be a definition) be made into a necessary truth, albeit a futile necessary truth. For it is manifestly true, though not a definition of "same person," that X at time two is the *same person* as Y at time one if and only if X and Y are both persons and X can (logical) remember at time two what Y did, etc., at time one. This alternative is of course not open to attack on the ground that it is too exclusive or too inclusive; only that it is irrelevant and otiose.

Second, taking "remember" in the same way and "can" as factual, Locke's definition is open to two objections. First, it excludes too much; for we often want to say that we must have done something or other though we cannot for the life of us remember doing it. We are even prepared to accept responsibility for such forgotten actions if they are not too important. And even if they are important, even if we want to disown or diminish our moral or legal responsibility for them, we are prepared to concede that we are the same persons as did them, unless, mistakenly, we think that personal identity is not merely the necessary but also the sufficient condition of moral and

legal responsibility.[1] The second objection to the second interpretation is that famous paradox, the case of the gallant officer. This was first made in a monochrome version by Berkeley (*Works*, II, pp. 334–5)[2] and afterwards produced in technicolour by Reid. "Suppose a brave officer to have been flogged when a boy at school, for robbing an orchard, to have taken a standard from the enemy in his first campaign, and also to have been made a general in advanced life." (*Essay*, III, p. 213).[3] Then, if the young officer could remember the flogging, and the general could remember taking the standard but not being flogged as a boy, on Lockean principles we should have to say that the general both is and is not the same person as the orchard robber. He is not the same (because he cannot now remember the robbery) and yet he is the same (because he is the same as the young officer who was in turn the same as the boy thief).

The *third* possibility is to take "can" as logical and "remember" as "make an honest memory claim." The objection to this is that it will let too much in. This point was first raised by Berkeley. Identity of person cannot consist in potential consciousness "for then all persons may be the same for ought we know" (*Works*, I, pp. 72–73). It is clear that here Berkeley was meaning what he calls "praeternatural potential consciousness" which is equivalent to "ability to remember" in the interpretations of "can" and "remember" being considered here. Berkeley goes on to remind himself, "*Mem.* Story of Mr. Deering's aunt" and to explain that he does mean "praeternatural potential consciousness." This suggests that Berkeley, greatly to his credit and, apparently, alone among Locke's early critics, saw the relevance of the puzzle cases (of which that of Mr. Deering's aunt was presumably one). And honest memory claims to have done actions which the claimant did not in fact do, are not merely logical possibilities. They do in fact occur; George IV in his declining years "remembered" his gallant leadership at the battle of Waterloo though only a very Lockean, or a very ambitious, courtier would pretend that the King assisted at that battle; and today we find that, no sooner are the evening papers on the streets than a queue is forming at New Scotland Yard of those who "remember" committing the latest murder.

The *fourth* possible combination, that of "can" (factual) with "remember" (make an honest memory claim) is open to all three objections made against interpretations two and three. First, it leaves

[1] For an illuminating treatment of the wild goose chase after some one necessary and sufficient condition of responsibility see H. Hart, *The ascription of responsibility and rights*, P.A.S. 1948–9.

[2] All references to Berkeley are to A. C. Fraser's edition of the *Works*.

[3] All references to Reid are to A. D. Woozley's edition of the *Essays on the Intellectual Powers of Man*.

too much out, ignoring amnesia. Second, it allows too much in, ignoring paramnesia. Third, it is internally inconsistent, being exposed to the paradox of the gallant officer.

This completes our attack. Locke himself capitulated, without realizing or admitting that he had. For after his repeated insistence that "the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved" (I, p. 454), an insistence which necessarily involves the denial that there can (logical) be honest but falsidical memory claims, he is anxious lest "one intellectual substance may not have represented to it, as done by itself, what it never did, and was perhaps done by some other agent" (I, p. 454). And so shocked by this opening possibility, he quietly capitulates as a philosopher. "And that it never is so, will by us, till we have clearer views of the nature of thinking substances, be best resolved in the goodness of God; who as far as the happiness or misery of any of his sensible creatures is concerned will not, by a fatal error of theirs, transfer from one to another that consciousness which draws reward or punishment with it" (I, p. 454). This surrender is none the less unconditional for being unconscious. If "being the same person as did X" *means* "being a person able to remember doing, or be conscious of doing, X" then you cannot say that it is possible for a person to be able to remember doing X and yet not have done X. By admitting that this might happen and then calling on the goodness of God to prevent this possible occurrence of phenomena of amnesia and paramnesia (which in any case do in fact occur), Locke is abandoning his characteristic view of personal identity in favour presumably of some view that "same person" has to be defined at least partially in terms of "same thinking substance." For he is admitting, what is quite fatal to his own analysis of personal identity, that it is not self-contradictory to say that someone "remembers" doing something and yet never did do it.

Now how and why has Locke got himself into this confused and catastrophic position? *First*, as we have seen, there are certain possibilities of confusion about memory.

Second, as we have also seen, Locke uses "consciousness" in several shifting ways. He seems to slide from his definition of "person" as a "thinking being, etc.," via talk of "that consciousness which is inseparable from thinking, and as it seems to me, essential to it" (I, p. 448–9) to the conclusion, "and as far as this consciousness can be extended backwards to any past action or thought, so far reaches the identity of that person (I, p. 449). Here "consciousness" at first seems to be used either as "not anæsthetised" or as equivalent to the queer sense of "self-conscious." But it later turns up in Locke's conclusions as a synonym for "memory."

Third, Locke seems sometimes to have confused the question,

"How can we know, what good evidence can we have for, propositions about personal identity?" with the inseparable but not identical enquiry, "What do such propositions mean?" It is the latter which he is supposed to be answering; what he offers would be a plausible though not a complete answer to the former. When he tells us that on the "Great Day" everyone will "receive his doom, his conscience accusing or excusing him" (I, p. 464) or that if he could remember the Biblical Flood as clearly as last winter's Thames flood he "could no more doubt" that he was "the same *self* as saw the Flood" (I, p. 458), he is clearly answering the first question, or an associated one like, "How can we convince ourselves, etc." As Reid said, "in this doctrine not only is consciousness confounded with memory, but, which is still more strange, personal identity is confounded with the evidence which we have of our personal identity." (*Essay*, III, p. 214.) Perhaps it seems less strange to us who have often heard the meaning of a sentence identified with its methods of verification.

But now, leaving these drab and perhaps hackneyed sources of trouble, we come to a *fourth* and more exciting one. Locke defined "person" as "a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing, in different times and places" (I, p. 448). Ignoring the possible danger of circularity which lurks in this talk of "the same thinking thing," the more radical objection must be made that this definition misses the ordinary meaning and use of the term "person." We learn the word "people," by being shown people, by meeting them and shaking hands with them. They may be intelligent or unintelligent, introspective or extraverted, black, white, red or brown, but what they cannot be is disembodied or in the shape of elephants. Locke's definition would make it a contingent truth about people that some or all of them are either embodied in or are of human form. But in the ordinary use of the word "people," we do actually meet people and shake hands with them; we do not meet the fleshy houses in which they are living or the containers in which they are kept. Nor is it logically possible for cougars (or parrots!) to be people. It is in short a necessary truth that people are of human shapes and sizes; and, not a contingent fact that some or all people "inhabit" human bodies and are of human and not animal form. This is not to say that all talk of "disembodied People" (or even parrot people) must always and necessarily be self-contradictory. It may perhaps be that the word "people" is being used in a radically different sense from its usual one, by those who wish to point out an analogy between the behaviour of people and some situations in which no people are present. This is a perfectly respectable method of adding to our language, a method which only becomes dangerous when it is not understood, when it is thought that "person" in the new sense has

the same meaning, the same logical liaisons, as "person" in the old, familiar sense. Locke himself admitted that his distinction between "man," which he used in substantially its ordinary sense, and "person," which he wants to use in a sense which would allow the possibility of disembodiment or embodiment, in different (or even non-human) bodies, is not made in ordinary language. "I know that, in the ordinary way of speaking, the same person, and the same man stand for one and the same thing" (I, p. 457). But though he did unguardedly admit this, he failed to realize how important this admission is and what its implications are. If you use "person" in a new sense, in a way other than the ordinary, then you wreck your chances of producing a descriptive analysis of "same person." And it was this that Locke was trying (most of the time) to do; we "must consider what *person* stands for," he tells us in introducing his definition of "person" (I, p. 448); and he concludes that of "same person" with the words "as everyone who reflects will perceive" (I, p. 459).

These proceedings are so peculiar that we must look for possible reasons for them. *First*, we can find certain nuances of English usage which might suggest a distinction on Lockean lines. For instance it would be slightly more natural to use "man" when referring to physical characteristics and "person" when referring to psychological ones: Charles Atlas and the Army offer to make a new man of you; the Pelman Institute, or your psychoanalyst, are more likely to promise that you would be an altogether different person after a course of their treatment. But this is the merest nuance, for when Robert Browning wrote:

> There they are, my fifty men and women
> Naming me my fifty poems finished!

he was dedicating a collection of character sketches. A slightly more promising temptation lies in phrases like "Our Claude is quite a different person since he went away to school." As we are quite sure that he is really the same boy, the same person, as in fact we should only say someone was quite a different person (in this secondary sense) if we were sure he was the same person (in the primary sense), it is possible perhaps to imagine that the different person is some shadow occupant of the bodily temple. Then again we have in our language the embedded traces of what was once a scientific hypothesis, the hypothesis of "possession." This degenerated into a mere alternative idiom through the addition of so many qualifications ("But it's an *invisible* spirit," and so on) that it no longer risked falsification. It thus ceased to be an hypothesis at all.[1] Instead of saying, "He drove wildly," or "Why on earth did he do it?" we can say "He drove like a

[1] For a stylised account of such a process see the story of the gardener theory in Mr. John Wisdom's *Gods* P.A.S. 1944–5. For actual cases consider the ether in physics or the animal spirits in biology.

man possessed" or "Whatever possessed him to do it?" And this sometime hypothesis and present dead metaphor has even now perhaps not altogether lost its deductive power.[1] Certainly it had not when Locke wrote. For, noticing that we do not punish "the mad man for the sober man's actions" he thought that this "is somewhat explained by our way of speaking in English when we say such an one is "not himself," or is "beside himself"; in which phrases it is insinuated, as if those who now, or at least first used them, thought that self was changed; the self-same person was no longer in that man" (I, p. 461).

This suggests a *second* reason for Locke's distinction between "man" and "person." Locke, like so many others, seems to have assumed that there is one single necessary and sufficient condition of moral and legal responsibility. But he notices cases where he does not want to blame or punish someone who in some sense seems to have been the agent who did the wrong or criminal action; for instance he does not want a madman to be punished for what he did before he went mad; he does not want to blame people for actions which they simply cannot remember having done. So then, instead of saying that the person in question did do whatever it was, but he is not to be held responsible, or at least not fully responsible, because he is now amnesic or insane, Locke distinguishes "man" from "person," announcing that the latter "is a forensic term, appropriating actions and their merit" (I, p. 467) and thus he could solve the problems by saying that in the troubling cases blame or punishment is improper because we have before us only the same *man* and not the same *person* as did the deed.

The *third* ground for Locke's queer distinction between "man" and "person" was his belief that human bodies were controlled by mysterious internal shadow beings in a way similar to, but much less intelligible than, that in which ships are directed by their captains and vehicles by their drivers. "For I presume it is not the idea of a thinking or rational being alone that makes the *idea of man* in most people's sense; but of a body so and so shaped joined to it . . ." (I, p. 448). If, "There be nothing in the nature of matter why the same individual spirit may not be united to different bodies . . ." (I, p. 444) and so on. A general attack on the bogus arguments which generate pseudo-explanations of this sort has been opened by Professor Ryle in his *The Concept of Mind*.[2] It is therefore unnecessary as well as impossible to deal fully with the matter here.

But perhaps it is worth dealing with just one of the paralogisms

[1] See William James in Vol. XXIII, p. 118 of the *Proceedings of the Society for Psychical Research*.

[2] I should like to say here how much I owe both here and everywhere to Professor Gilbert Ryle.

which helps to raise these "ghosts in the machine." Locke, earlier in the *Essay* was concerned to prove that the soul had no surreptitious access to black market ideas, but was properly confined to getting its supplies via the legitimate and official channels of post-natal waking experience. In his argument there occurs the claim, "We know certainly, by experience, that we sometimes think; and thence draw this infallible consequence—that there is something in us which has the power to think" (I, p. 128-9). This is a terrible argument. Its alleged conclusion suggests all those paradoxical possibilities which Locke was here concerned to deny. For if our thinking is done by some mysterious internal thinking thing then it is natural to ask whether it can do any thinking without our knowing about it, whether perhaps, being notoriously elusive and invisible, it may not sometimes slip out while we are asleep and go off to do some solitary and secret thinking, perhaps even taking up its station inside someone else for this purpose. All these possibilities, colourfully presented as the hypothetical doings of Socrates, Castor, Pollux, and their various souls, are duly considered by Locke. (I, pp. 130, 132, and 138.) Perhaps this was the beginning of his strange speculations and suppositions about personal identity. But the argument which here suggested them is utterly invalid. For though we do undoubtedly know that "we sometimes think," this has not the slightest tendency to show that this thinking is done by "something in us which has the power to think." Quite the reverse. The argument derives what little plausibility it has from the tacit assumption that everything we do is done with some special organ. But this is false; we write with our hands, certainly; but we do not decide, or sleep, or fret with special organs of deciding, sleeping or fretting. It would be pleasant to believe that Locke was beginning to realize this when he wrote, "But whether sleeping without dreaming be not an affection of the whole man, mind as well as body, may be worth a waking man's consideration . . ." (I, p. 130).

For it is people who think. Thinking is an "affection of the whole man" just as are dreaming, fretting, deciding or feeling glum. Thinking is not done for us by some internal and clandestine organ, nor yet by a private and invisible politbureau nor yet even by some mysterious and unfindable substance. And even if the psychologists were to find some mysterious substances which did inhabit all people while they were alive and left them when they died, still even this would be just one more contingent fact about people. It would have no bearing on the question of what is *meant* by "person" or "some person." It would have no tendency to support Locke's view of "person."

There is a *fourth* sort of reason which Locke had for defining "person" without referring to the shapes and sizes of people. It lies in the need to find something which could reasonably be held both to survive a man's death and to be accountable, on the "Great Day,"

for his deeds upon earth. Now to be justly accountable, here or hereafter, for a murder, you have to be the same person as the villain who did the murder; that is the necessary though by no means the sufficient, condition of responsibility. But if you attach the customary sense to "person," this necessary condition can never be satisfied by anyone who died before "the Great Day." For he will simply not exist to be responsible; he will have died and been buried. The situation cannot be saved by producing an indistinguishable person to stand his trial. For "one thing cannot have two beginnings of existence, nor two things one beginning . . . . That, therefore, that had one beginning, is the same thing; and that which had a different beginning in time and place from that, is not the same but diverse" (I, p. 440).

So our defendant, though he would be ex-hypothesi indistinguishable from the murderer, could not be the same person, numerically the same person; and therefore could not justly be punished for the murder. Locke, therefore, in so far as he realized that his definitions were not descriptive had a fourth and strong reason (or perhaps it would be better to call it a motive) for making "person," unlike man," refer solely to the psychological aspects of human beings. For while it is immediately obvious that a person in the old familiar sense, a person like those we meet in the streets, cannot (logically) survive dissolution, it does seem at first sight conceivable that a person, in the sense of a series of experiences linked together in some subtle gap-indifferent way, or in the sense of a "thing which is sensible or conscious of pleasure and pain, capable of happiness or misery," might survive, and be the bearer of responsibility for what that same person (in a new and rather peculiar sense) did "in the body." There are appalling difficulties in the logic of such new senses of "person" and "same person," which, fortunately, it is not relevant to this paper to discuss. But it is perhaps both relevant and worthwhile to draw attention to Locke's achievement in uncovering them. He himself of course could not see clearly what, or how great, or how numerous they are; partly because he thought he was defining the ordinary sense of "person," and therefore saw no difficulty in making a "disembodied person" (that is a person in some new sense) the same as (and thus possibly accountable for the actions of) some person (person that is in the old sense) who had lived at a previous date; partly because, as he thought he had successfully found in memory what Hume called the "uniting principle, which constitutes a person," he could scarcely be expected simultaneously to realize that memory can only discover and not constitute personal identity (in *any* sense of "person"); and partly for the simple reason that this territory he had entered was too vast and difficult for any one man to open up immediately. His insights are the more remarkable since he had to struggle for them

through a rank growth of baffling terms—"immaterial substances," "selves,"[1] "thinking substances," "rational souls." They are the more outstanding, inasmuch as a critic of the calibre of Bishop Butler failed to see that the subject presented difficulties, complaining of the "strange perplexities" that had been raised. "Whether we are to live in a future state, as it is the most important question which can possibly be asked, so it is the most intelligible one which can be expressed in language." Locke, had he read the dissertation *Of Personal Identity* would have agreed as to the supreme importance of the question, but might, with some reason, have asked for some solution of those "strange perplexities" of the puzzle cases before being prepared to concede that it really was all quite as straightforward as Butler thought.

After this slight digression in defence of Locke's good fame, it is time to leave his distinction between "man" and "person," and the enquiry into his reasons for making it, and proceed to the *fifth* and final source of his unhappy analysis of personal identity. This was, we suggest, his assumption that it is possible to find a definition with the help of which we could say unhesitatingly, in every actual or imaginable case, whether or not the expression "same person" was or was not correctly applicable. (Granted of course that we were always provided with all relevant factual information.) This assumption is mistaken.

Doubt may be cast upon it in three ways. *First*, it is unsettling to see the troubles of those who have tried to produce such a definition; Locke offered one with the unfortunate results already examined; Berkeley, more wisely, refrained deliberately from the attempt. In the *Commonplace Book* he reminds himself "Carefully to omit defining of Person, or making much mention of it" and this good advice he resolutely follows throughout his published works, with the significant exception of a passage in the *Alciphron* where he challenges the minute philosophers to, "untie the knots and answer the questions which may be raised even about human personal identity," before requiring, a "clear and distinct idea of *person* in relation to the Trinity." (*Works*, II, p. 334.)

Second, this assumption overlooks the possibilities of vagueness, of the marginal cases in which we do not quite know where to draw the line. Most words referring to physical objects are vague in some direction; somewhere there is an undemarcated frontier; somewhere there is a no man's land of indeterminacy; often there is a complete encircling penumbra of perplexity. And this is and must be so because

[1] For a disscusion of this particular term, as used by contemporary philosophers, see my *Selves* in *Mind*, 1949. It is perhaps worth mentioning that by a slip of the pen I blamed philosophers since Hume for the use of this queer term. I should have extended my attack to philosophers since Locke.

Nature has made no "natural kinds." God made the spectrum; Man makes the pigeonholes. It was Locke who launched attack after attack on the tyrannous superstitions of real essences and natural kinds. It is he who points again and again to the problem objects which will not fit obediently into one class or the other. He even points to the vagueness of the term "man"; he draws attention to the changelings who are "something between a man and a beast" (II, p. 237); he records the story of the Abbot Malotru who was so monstrous at his birth that "he was baptised and declared a man provisionally" (II, p. 77); he insists that "There are creatures . . . that with language and reason and a shape in other things agreeing with ours, have hairy tails; others where the males have no beards, and others where the females have" (II, p. 73). And yet in spite of this Locke does not seem to entertain the possibility that "person," "rational being," "soul," "immaterial spirit," "self," and the rest of the words alleged to refer to the putative and elusive internal population of the body, may be vague terms just as "man" is. Perhaps this can be seen most strikingly when he argues that no external shape is an infallible sign that there is a rational soul inside. "Where now (I ask) shall be the just measure; which is the utmost bounds of that shape which carries with it a rational soul?" He points out once again "all the several degrees of mixture of the likeness of a man or a brute," and demands "What sort of outside is the certain sign that there is or is not such an inhabitant within?" (II, p. 241). Finally he complains, "we talk at random of *man;* and shall always, I fear, do so, as long as we give ourselves up to certain sounds, and the imaginations of settled and fixed species in nature, we know not what . . . So necessary is it to quit the common notion of species and essences, if we will truly look into the nature of things . . . ."(II, p. 242). And yet he is himself all the while assuming that there is a precise real essence of the rational souls, a fixed species or natural kind of the people, who inhabit some—though we cannot always tell which—of these men and near men whom we meet. It is strange.

Third, as our ordinary language, and the concepts of ordinary language, have been evolved or introduced to deal with the situations which are ordinarily met with, and not with the extraordinary, we may reasonably expect some failures of adaptation when new and unexpected situations arise. And these do in fact occur; the old conceptual machinery breaks down; the old terminological tools fail to cope with the new tasks. These breakdowns are different from the cases in which indecision arises from the vagueness of a term. "Ship" is perhaps a vague term in that a whole spectrum of similarity stretches between things which are certainly ships, via the things which provoke linguistic hesitation, to other things which are undoubtedly boats. But when a court has to decide whether the word

"ship" in a statute covers flying boats, the difficulty arises not so much from the vagueness of the term "ship" (that would imply that the drafting of the statute was bad and might have been improved) but from what Dr. Waismann would call its "open texture,"[1] from the fact that it was evolved to cover the situations that had arisen before or were thought likely to arise, and not the situations which had not arisen and could not have been foreseen. Vagueness could have been removed by prescribing that nothing under so many tons was to count as a ship within the meaning of the act. "To remove vagueness is to outline the penumbra of a shadow." But it is not possible, as Dr. Waismann says, "to define a concept like gold with absolute precision, i.e. in such a way that every nook and cranny is blocked against the entry of doubt. That is what is meant by "*open texture*" of a concept." It is this open texture much more than any actual vagueness in use which prevents the definition of "person." And by imagining, fully two centuries before the foundation of the Society for Psychical Research, a series of puzzle cases which leave us at a loss as to whether or not to apply the expression "same person," Locke revealed, what he did not himself see, that it is not possible to define the meaning of "same person" descriptively and at the same time give a definition which will answer all possible problems of application. This is not possible because there is no usage established for many of these unforeseen situations, and therefore such proper usage cannot be described. In cases such as Locke produces we can only admit that "we don't know what to say," and then perhaps prescribe what is to be the proper usage if such cases occur or recur. It is not even possible to produce even a prescriptive definition which will give absolute security against all possibility of surprise and indecision. Locke produced a definition of "same person" which enabled him to give an answer to all the puzzle cases which he imagined. Let someone appear who seemed to remember the Biblical Flood as clearly and accurately as he remembered last year's flood of the Thames. Trying to use "same person" in the ordinary way we should perhaps not know whether to say he was the same person as some contemporary of Noah or not, (though I think we should be more inclined to say "No" than to say "Yes"), but if we accepted Locke's definition as prescriptive, we should be ready with the definite and unhesitating answer, "Yes, he is the same person." But no prescription can give absolute security. Locke did not, and could not, imagine all the possibilities. Suppose, what is not merely conceivable but imaginable, that a person splits like an amoeba—first into two Siamese twins—then separating into two identical twins. And suppose both twins, call them A^1 and A^2, can remember all that the original

[1] See his contribution to the Symposium on *Verification*. P.A.S. Supplementary Vol. XIX. I owe a great deal to him.

person, call him A, could remember before his unfortunate experience. On Locke's definition A^1 and A^2 will both be the same person as A, and yet they will obviously be different people, just as are identical twins. Clearly we should not know what to say. This preposterous supposition will serve to show that it is not possible to produce either a descriptive or a prescriptive definition of "same person" which shall remove every possibility of linguistic perplexity. We can prescribe against vagueness, but then there is always the open texture through which forever threatens the insidious infiltration of the unforeseen.[1]

The search for the talismanic definition which shall solve all problems, for the real essence of personal identity, was therefore a mistake. Why did Locke make it? As we have seen it involved an abandonment of his greatest insight, a betrayal of the glorious revolution he was leading against the superstition of real essences and natural kinds. Well, it is just as easy to fail to apply a new discovery consistently as it is to push it to absurd extremes. We smile at the man who tells us "I'm an atheist now, thank God!" but we all fall into similar inconsistencies. So with the notoriously inconsistent Locke, there is every reason to expect, what we do in fact find, a failure to see all the implications of, and to apply thoroughly and systematically, the discovery which he has made.

Then we remember those long struggles that had to be fought (and which still drag on in some intellectual backwoods) before the doctrine of evolution was allowed to include *homo sapiens*. We remember the bitter rearguard actions, arguing for a special creation for this one most favoured species, and the final forlorn hope to save the special creation of souls to inhabit those unoccupied bodies which had at last been conceded to be the most recent results of the evolutionary process. In the light of all this, it no longer seems surprising that Locke, living two centuries before the famous Victorian battles over Evolution, failed to take his great discovery into the enclosure reserved for the ghostly company of "rational souls," "persons," and "thinking substances."

Another source of the inability to see that questions may be asked about personal identity to which there can be no *true* or *false* answer (until and unless a new decision, which may be wise or *unwise*, is made about what is to be proper usage) lies in the familiar fact that people often know things about their pasts which they conceal from other people. We tend therefore to assume that all questions about the identity of *persons* are always wholly factual, susceptible of straight, true or false answers, long after we have realized that ques-

[1] For a study of how this unavoidable open texture of so many concepts affects the law, and of many related subjects, see Dr. Glanville Williams series of articles on *Language and the Law* in *Law Quarterly Review*, Vols. 61 and 62. I owe a lot to them.

tions as to whether this is or is not the same *thing* may sometimes not be so straightforward. We feel that the person in question must himself always know—yes or no—whether he is the same person as the man who broke the bank at Monte Carlo. Even if we cannot discover the answer, even if he protests that he does not know, still we assume that he must remember really and merely be trying to deceive us. For that is not the sort of thing anyone would forget. We do not tend to think that the thing could tell us if it wanted to; but we do tend to think that a person could. "Wherever a man finds what he calls himself, there I think, another may say is the same person" (I, p. 466–7). And "should the soul of a prince, carrying with it the consciousness of the prince's past life, enter and inform the body of a cobbler . . . everyone sees he would be the same *person* with the prince . . ." (I, p. 457). And so, confident that the subject must always know whether or not he is the same person, just as he always has the last word as to whether or not he is in pain, Locke proceeds to give his disastrous definition of personal identity, quite overlooking the cases of amnesia and paramnesia which show that personal identity is not like pain in this respect. The honest testimony of the subject is not the last word in every case, it is not the irresistible evidential atom bomb against which there is no defence. But the fact that it is such very good evidence combined with the fact that we are all too familiar with human reticence and deceit misleads us into thinking that it is.

To sum up. We outlined Locke's contribution to the study of the philosophic problem of personal identity, and showed that his central answer was wrong. We then enquired at length into the sources of his mistakes, finding five; *first*, a series of confusions about memory; *second*, his muddled and slippery use of the term "consciousness"; *third*, the failure rigidly to distinguish the meaning of statements from, what is so inseparably connected with it, their methods of verification; *fourth*, the view that "person" refers to some bodiless and intangible inhabitant of the "dark room of the understanding" (I, p. 212) rather than to people like those we meet in everyday life; and, *fifth*, the assumption that there is some real essence of personal identity, that it is possible to produce a definition, and a definition furthermore which can guard us against every threat of future linguistic indecision. We neither began nor intended to begin to tackle the problem itself directly; it was a sufficient, and very Lockean task to clear the ground of a few obstructions and to point out some of the dangers which beset the road.

REFLECTIONS ON THE NATURAL PHILOSOPHY OF GOETHE

Dr. WOLFGANG YOURGRAU

Lichtenberg, the German philosopher and physicist, once remarked: "It is almost impossible to carry the torch of truth through a crowd without singeing someone's beard." Goethe, coeval with Lichtenberg, possessed by the conviction that he too was the bearer of truth, recked not whose beard was singed. Between his scientific attitude and his philosophic insight, however, a contradiction was patent, as revealed in his maxim that truth is a torch and that it is only with blinking eyes that we try to get past it, whilst in actual terror of being burnt.

It is a feature of our time that we abhor any form of dilettantism. Some scholars are not averse to Einstein's theory of relativity; they do however object to his playing the violin. And to this very day many critics have not become reconciled to the fact that Goethe, the poet, was both natural philosopher and scientist.

The sage of Weimar regarded all events of the phenomenal world from a universal standpoint. Such was always the case during periods of spiritual well-being, as in the day of the Greek poets and thinkers, or the *uomini universali* of the Renaissance (Morris). Scholasticism referred solely to dogma; the scientific and direct approach to the kingdoms of plants and animals was either despised or proscribed. Not until the seventeenth and eighteenth centuries did a few great scientists dare to liberate themselves from this contempt of the physical universe. Goethe was one who was entirely free from this prejudice; he was "in love with reality." But one should remember that the spirit of scholasticism still prevailed in his day. For instance, there was in Jena a professor who remarked in a lecture that mummies originated from the Egyptian habit of wrapping their dead in white linen soaked in balsam, and so tightly that the dead could not move a limb.

Goethe was a Spinozist for his fundamental creed was Spinoza's *deus sive natura*. He once wrote in a letter: "Spinoza does not prove the existence or being of God; existence or being is God. And when others for this label him an *Atheum*, then I feel tempted to pronounce him *Theissimum*, or better still, *Christianissimum*." And in another portion of this letter: "All effects in nature that we perceive depend upon one another. . . . From the brick that falls from the roof, to the lightning brain-wave, . . . all these events are interdependent." We can therefore call Goethe a determinist in the Spinozistic sense of the word.

It is evident that his Spinozistic creed excluded, as a matter of course, the teleological view which prevailed at that time in natural science as well. Throughout his life, Goethe fought against the teleological tradition of Aristotle. He was violently opposed to any attempt at interpreting nature in terms of usefulness or finalism, and thus refused to accept the hypothesis of a first creator or prime mover. It was his practice to consider an event in nature *per se*, i.e. without any relation to purposiveness, but merely as a living entity which perforce includes cause and effect within itself. In a letter to Zelter he vouchsafes nature the right of manifesting through great principles though not with finality. And whereas he usually scorned an appeal to authority in support of his *Weltanschauung*—"since I have myself thought about most of these questions"—yet, when he rejected the teleological approach to life, he invoked the views of Kant as expounded in the *Critique of Judgement*.

Young Goethe had toyed with physics, chemistry, anatomy and gynaecology in Leipzig and in Strasbourg. It was in fact in his early youth that the two facets of his creative genius, the artistic and the scientific, became apparent.

It might be appropriate at this juncture to pass in review certain of Goethe's remarkable contributions to natural science. Through gardening he was led to the intensive study of botany. In this subject his *magnum opus* was the *Metamorphosis of Plants*, which may thus be crystallized: all parts of a plant, with the exception of the stem and the root, are leaves; even the stamen and the carpel, too, are leaves. Other investigations included the effects of coloured light upon the growth of plants. And although his views on physiology as expressed in the related treatise are now certainly obsolete, Goethe's idea of the existence of a plant prototype, of the *Urpflanze*, is as original this day as it was in his. He sought the very TYPUS of the plant, the plant prototype that was the model, the pattern of all plants, though he offered no definite suggestion as to the structure, the *Gestalt* of the *Urpflanze*. In consequence, and since it was restricted to flowering plants, the scientific value of his bold concept has suffered. Nevertheless, his notion of *Gestalt*, of dynamic structure, breaks through the inflexible system of Linnaeus' botany with its emphasis on numbering, classification and labelling. The expression "metamorphosis of plants" was originated by Linnaeus yet it differs from the conception of Goethe in that the theory of Linnaeus portrays a systematic construction, while that of Goethe embodies an evolutionary concept based upon direct intuitive knowledge.

Goethe's researches on the spiral tendency of plants, it is admitted today, have lent considerable impetus to botanical studies. But in the poet's day Goeschen, the renowned publisher, deemed Goethe's views far too heterodox, so much so, that he refused to publish the

poet's *Metamorphosis of Plants*, successfully resisting the temptation of being publicly ridiculed.

With his studies in anatomy, the so-called "layman scientist" was more fortunate. Accidentally, he discovered that the intermaxillary bone of apes and other vertebrates was present, though in rudimentary form, also in man (1784). The "learned" professors had for long maintained that the human being is without an *os intermaxillare* and had advanced this apparent difference as a critical distinction between man and other mammals. When his patient observations in the realm of comparative anatomy rewarded him by this great discovery, he wrote to Frau von Stein: "I am so excited about this bone that my intestines are revolving." Later he learned that the French anatomist Vicq d'Azyr had preceded him and had already published in the *Mémoires de l'Académie* (1780) proof of the existence of the human intermaxillary bone. Reminiscing, one is reminded of the simultaneous invention of the calculus by Newton and by Leibniz, and of Descartes' and Fermat's entirely independent creation of analytic geometry. Progressing, Goethe long before Darwin, postulated that man is closely related to the animal. And, Charles Darwin himself emphasized the point that Goethe in Germany, Erasmus Darwin in England, and Etienne Geoffroy Saint-Hilaire in France almost simultaneously reached identical conclusions regarding the origin of species. Until the middle of the nineteenth century, the Goethe-Oken theory contending that the skull bones of vertebrates are derived from vertebrae, largely predominated. Goethe and Oken beheld in the skull a continuation of the vertebral column. To date, the hypothesis of the segmentation of the skull is still under discussion.

Continuing, Goethe's manifold investigations into botany and anatomy automatically involved him in profound morphological studies, whereof the sequel is, I venture to suggest, that Goethe the dilettante founded the science of morphology. The very term "morphology" was coined by him, as witness the testimony of no less an authority than D'Arcy Thompson, pre-eminent biologist. In morphology Goethe perceived an auxiliary branch of physiology; in it he envisaged the doctrine of *Gestalt*, the formation and transformation of organic bodies. It belonged to the natural sciences. It was the prototype of plant and animal, the *Urphaenomen*, the very prototype around which his dreams and aspirations revolved. There are aspects of this work which indicate that the amateur had forestalled the theory of cell structure in his hypothesis of vital units, to each of which is attributed the full character of life. His contributions to morphology will be appreciated even more when it is learned that his *Urphaenomen*, referring to the organic structure or *Gestalt* of the animal, became the subsequent basis for the theory of descent. And

Haeckel's *biogenetic law*, that "ontogeny recapitulates phylogeny," also was anticipated by the lay-student of Weimar, while the whole genetic approach to organic problems, described by Kant as an "audacious adventure of reason," dates back to Goethe. In one essential conception, however, he lacked prophetic vision: he believed, with Fournier, in the continuous and steady evolution of all processes in nature—*natura non facit saltus*. In refutation of this claim the theoretical physicist Planck, once and for all demonstrated through his quantum theory, that nature does make leaps.

The learned fraternity, the professionals, the experts objected to the dilettante's intrusion into their domain. What ailed their mechanistic interpretation of natural processes? How could this "master of all trades" venture to defy principles generally accepted by God's finest creation, professors? No wonder that Goethe in time became bitter. In a letter to Merck he acrimoniously remarked: "I believe that a professional scholar is capable of denying his five senses."

All the mortification he had experienced was, however, as naught compared with the hostility he encountered upon the release of a new theory regarding the nature of colours, his famous *Zur Farbenlehre*. According to this thory, colours originate from an interplay of light and shade; they are effects of light both in the active and passive sense. In Goethe's view all phenomena of colour derived from a medium which he called "dimness." Newton had demonstrated that white light consists of rays, of waves which excite in the eye the various sensations of colour. Light rays of different wavelengths, when merged, appear to our sense perception as white, whereas Goethe held that white light is something indivisible and uniform. Colours, he averred, materialize through the dimming of white light.

His differentiation of colours into physiological, physical and chemical colours, although scientifically unacceptable today, has still a certain fascination even for the modern physicist. Among the physical colours, according to Goethe, are included prismatic colours, those obtained through refraction. Helmholtz rightly emphasized that Goethe was at all times faithful to the sensory impression and consequently dealt with a geometrical locus as if it were a solid object. For instance, he treated an image in a mirror as if it were something real, not understanding at all that it is only the geometrical locus at which the light rays meet when they are prolonged backwards. In brief, Goethe always considered an ideal point as though it were a real object. On the other hand, his remarks concerning the sensory-ethical effect of colours suggested an entirely new branch of psychology which had hitherto been ignored. Upon the doctrine of colours is centred Goethe's most monumental work; to its elaboration is devoted a treatise comprising 1,400 pages, and

in its interest the best years of his life. Unfortunately, the adversary whom he dared defy was a giant in this particular field, one of the greatest scientists marking the history of human thought: Newton. Goethe was driven to despair; he utterly failed to comprehend the Englishman's physical theory of science. Moreover, he eschewed mathematical theory even when contemplating the polarization of light (Malus).

To this inability to appreciate abstract reasoning should be attributed his polemic. In a diatribe against Newton he employed such expressions as "nasty lawyer's tricks; what a gentleman; sheer rubbish," and so forth. Not having learned *fas est et ab hoste doceri*, he anathematized Newton. What was the underlying motive for this passionate hatred? Was it merely the disillusionment of a vain "pseudo-scholar"? No, and I think it is not too ambitious an undertaking to survey the grounds for Goethe's violent resentment against Newton. Goethe approached every natural phenomenon, the world of appearance, with the intuition of an artist. His conception of the *cosmos* was restricted to forms, colours, sounds, thoughts, feelings and passions. But this subjective poetic world, colourful and reverberant, is unfortunately for Goethe annihilated by objective mathematical physics. He would appeal to our senses which have little respect for scientific enlightenment.

> "If the eye were not of the nature of the sun
> How could we see the light?"

Do we not still speak of sunrise and sunset? Do we not behave as if the earth be motionless, as though it be quiescent (Morris)? Whenever a physicist or mathematician deals with his fellow-men—does he record their voices as sounds consisting of a certain number of waves per second? Does the scientist regard his rival or colleague as a chemical compound containing about 10^{13} cells and a plenitude of carbon, nitrogen, hydrogen and iron, etc.?

Any mathematico-physical, analytic approach was intolerable to this synoptic and eidetic type of creative mind, for Goethe was unable to appreciate the poetic beauty and enchantment of a mathematical axiom or theorem. Failing to understand Newton, he ridiculed him, as witness the following: "Mathematicians are a sort of Frenchmen—when one talks to them, they immediately translate it into their own language, and then the whole thing takes on a different meaning." The antithesis between Newton's view and that of Goethe lay, according to Planck, in Goethe's concentration on the event in its totality and on immediate sensation, whereas Newton strove to grasp the mathematical pattern underlying the world of phenomena. Hence the distinction between the organ of sight and the source of light was incomprehensible to the universalist.

Goethe's omnivorous curiosity directed his attention to geological and meteorological studies. He made certain interesting observations, but was without any particular influence in these fields, the discovery that the Bologna-stone (*lithophospor*) is luminous only in the violet part of the spectrum, notwithstanding. In meteorology he did not single out for attack any physical theory as was his procedure in theory of colour. He simply ignored physical theories in this realm and viewed matter anthropomorphically, by endowing it with some kind of soul and rhythmical action characteristic of a living being. It is evident that Goethe's notion of *entelechy* has a certain affinity with Driesch's concept and not with the Aristotelian principle. But as almost nonsensical must be described his doctrine of increase and decrease in gravitation and his comparison of this rhythm with the inspiratory and expiratory phases of respiration. His conception of "pulsatile" gravitation as the reason for atmospheric phenomena is, to say the least, untenable.

Somewhere Goethe opines: "The Greeks—they brought the great truths to the world in the form of gods; we, on the contrary, state these truths in more abstract terms." Alas! his mind was ill-attuned to the tenets of abstract reasoning. In his views on natural science the Greek undercurrent was still manifest, the ancient unity between the mythical and the scientific, the characteristic of the Ionian natural philosophers. Heracleitus' *παντα ρει* had already disappeared as a principle of philosophic contemplation. His emphasis on the Becoming, on the ever-changing development was, however, reasserted by Goethe, who possessed the rare gift of an exact sensory imagination (*eine exakte sinnliche Phantasie*) which did not seek anything behind phenomena, the factual world, since the phenomena themselves were the interpretation, the theory. Curiously enough, in a most significant contradition to this view, he condemned the Greeks for having committed the error of being overhasty, of passing directly from the phenomenon to the explanation thereof, to the abstraction. However, he condoned this tendency as a fault common to all times. He projected Protagoras' maxim *ανθρωπος μετρον απαντων* into his theory of nature, though under his *aegis* it was transmuted into the rather sententious dictum which proclaimed that "the senses mirror the world" was the very foundation of our knowledge (Gundolf).

In his biological studies he displayed fierce opposition to an ultramechanistic interpretation of processes in nature. One might designate him an early apostle of the modern concept of integration; the life of the organism exceeds the collective properties of the cells composing it (D'Arcy Thompson; v. Bertalanffy). He went even further and expressed belief in a formative power that executed the idea of the organism (E. S. Russell). Similar, although not identical

conceptions, are held today by many theoretical biologists. They affirm that the character pervading the science of living organisms bears no analogy to the exact sciences, in contrast with Loeb's mechanistic attitude towards living phenomena wherein solely physico-chemical agencies are paramount. There seems to be a certain affinity between Goethe's *Urphaenomen* and the *genotype* of Johannsen who first distinguished between the final form of an organism, the *phenotype*, and its rudiment-type, or *genotype*. Today we regard morphology as a discipline of the signs of genesis devoted to the comparative analysis of homologous structures, rather than to the elucidation of the functions of organs (v. Uexküll). Huxley refers to Goethe as one of the pre-Darwinian nineteenth-century biologists who in classifying organisms, utilized as the supreme criterion likeness in fundamental structure rather than mere superficial similarity. With Buffon, Lamarck, Treviranus and Goethe, we approach the modern conception of organic evolution (Weyl). This new idea Goethe for his part derived, according to v. Uexküll, from the careful study of a single instance—a procedure only for the naturalist highly gifted with intuition. However, one should realize that to Goethe evolution was a conceptual term rather than a factual series of changes.

Some authors hold that had Goethe contributed nothing else to science, his theory of colour alone would have assured him a place in the pantheon of natural scientists. Does he merit this exalted position? When Goethe repeated certain of Newton's experiments in optics, he resolved that he would not accept Newton's interpretation of complex phenomena as the foundation of a theory of light. How could the British scholar venture to explain the elementary, the simple through the medium of the complex, the compound? His German antagonist had gained his whole insight into nature from the realm of perception and therefore opposed any mathematical system of axioms, especially mathematical physics which seeks the abstract law or equation beneath the real appearance. His clash with Newton was not an antinomy between two theories, but one between two irreconcilable *Weltanschauungen*. The universalist of Weimar sought truth in the world of appearance, the mathematician of Cambridge in the realm of number and ratio. Goethe's aversion to microscope and telescope completely dissociated him from the newly risen mathematico-technical approach to natural science. Newton endeavoured to eliminate, as far as possible, any psychological or even physiological considerations. Goethe, *per contra*, discoursed upon the sensory-ethical effects of colours! It may seem strange, though it is fact, that the great physiologists Johannes Müller and Purkinje inspired by this original concept, were upon their own admission stimulated in their investigations of sense-physiology.

Goethe probably assumed that one would know little of colours, unless one proceeded *ab initio* from subjective sensibility to colours. Hence, the physical investigation of colours could not but lead to a result that was at odds with colour sensibility and its perceptual characteristic. Bavink, whose recent death removed from our midst perhaps one of the profoundest of natural philosophers, demonstrated how incorrect was this conclusion. Goethe was not aware that mathematics employs a deductive method, whereas physics proceeds by induction, *i.e.* the science of physics is at any moment susceptible to augmentation of its data and thus to new formulation of its conceptual systems. The foregoing truism finds corroboration in Planck's masterly exposition of Goethe's doctrine of colours. The author of this doctrine was prone to err through his inability to appreciate the epochal progress that had been made in physical optics. He was totally unable to discriminate between the ray of light as analysed in an objective scientific manner and the conscious sensation it engendered. True, Goethe endeavoured to reconcile the eternal antagonism between metaphysical and positivistic views in science. But can one follow Planck, Bavink and Jaspers who recognize in certain modern trends of physics a confirmation of Goethe's all-embracing idea of totality? In his brilliant study on *The Goethean and Newtonian Theories of Colour in the Light of Modern Physics* the theoretical physicist Heisenberg has produced an illuminating analytical treatise, far more profound than any I have yet encountered. The theories of Newton and Goethe, he avers, deal with a fundamentally different universe of discourse. Whereas the physicist's first requirement is to separate the subjective from the objective—a *conditio sine qua non* for his research—Goethe defied that necessity by pleading for a more alive, dynamic natural science. Newtonian optics became an exact science whereby physicists were enabled to enter a realm which was beyond the reach of immediate sense perception. It attempted to order the world of colours mathematically as successfully as it ordered mechanics. Goethe approached his doctrine of colours actuated by the desire to furnish a systematic description of colour phenomena in art. In mathematics, Newton found the one and only instrument for scientific cognition of real nature, the only means for the concatenation of the varied facts observable in the physical universe. Without such a mathematical theory of light, mankind would have had to forgo such aids as the telescope and microscope. Natural science in the Newtonian sense counts, measures and endeavours by strict laws to bind even chance and accident. There could not be any greater divergence of paths of experience, of degrees of reality! Natural science in the Goethean sense does claim to interpret events, not to analyse them. The primacy of the senses postulates not any mathematization, but the

coherence of events in the inner self. By positing a mathematico-axiomatic system, the theoretical physicist reduces the multiplicity of natural phenomena to an abstract configuration. Goethe's objection was that the results of such investigations, physical or mathematical, were no longer of the same nature as the phenomena originally subjected to inquiry.

It is conceivable that even a modern physicist might not share the foible common to "exact" scientists of refusing to pursue the Goethean approach. Does any proof, however, exist for the assumption that Goethe's doctrine of colours contains mathematical notions in their purest forms analogous to the theories of symmetries and numbers (Heisenberg)? Can Kepler's harmony of the spheres which he envisaged while calculating his planetary laws be likened to the eidetic, subjective, almost poetic presentation of Goethe's colour theory? Further penetration into exact natural science, for instance atomic physics, would entail the renunciation of that immediate contact with nature which, to the mind of the German universalist, was a *sine qua non* for the understanding of nature. Today our experiments alter the object of our research, whereas originally the aim of all exploration into nature was to depict it in as true a light as possible. Could an extreme phenomenalist like Goethe ever be a competent physicist? Contemporary thinkers would, I suggest, regard the poet's phenomenalistic conception as inimical to their mode of research, for the postulates of simplicity and economy could not be applied systematically nor to their fullest extent (Stöhr; Frank). The great Unamuno once remarked that if a man never contradicted himself, the reason was that he virtually never said anything at all. If this paradox is not entirely preposterous, then the supreme phenomenalist would be a fitting illustration of its truth. In his *Maxims and Reflections* Goethe compares hypotheses with the scaffolding erected before a building and removed upon completion of that structure; at the same time, however, he warns that the scaffolding should not be confused with the building. Is this quasi-positivistic metaphor compatible with the *epitheton* "And what in fluctuating appearance hovers, Ye shall fix by lasting thoughts"? At least Schrödinger, one of the most distinguished of theoretical physicists, seems to have identified himself with this metaphysical-realistic view.

Goethe's interpretation of the totality of nature shows a certain affinity with the modern conception of integration in biology and psychology. But is this idea in accordance with the belief that polarity and the power of intensification and acceleration (*Steigerung*) are the main governing forces of nature? This cannot be—for the contradiction is not merely a verbal one, it actually illuminates the almost tragic conflict between two irreconcilable approaches to

nature. Exact natural science has in Goethe its opponent. He not only failed to understand the fundamental concepts of science; he categorically refused to accept them! These scientific fundamentals —were they not based solely upon logical abstraction from the given universe of man and nature? Goethe, the passionate observer of nature, was chained to the testimony of the senses, and never could contemplate nature in abstract fashion ("nature has neither kernel nor husk"). Incidentally, it has been maintained that Helmholtz and even Kirchhoff treated of physics in a manner not utterly dissimilar to that of Goethe. Like the philosophers of the Milesian School the poet tried to reason from the general to the particular, whereas the modern research worker has adopted the reverse procedure. Goethe knew full well that his power of synthesis eclipsed his power of analysis. There can be few this day who would likewise completely jettison a causal-mechanistic exploration and trust themselves entirely to intuitive synthesis. On the other hand, many scholars might welcome his suggestion of the need for a categorical imperative in the natural sciences, just as it is warranted in the realm of ethics. And yet, when he enthuses over the spiral tendency as the actual life-principle, one is reluctant to accept so sweeping an assertion, nay, one is almost revolted by this anthropomorphism and reminded of Driesch and Lecomte du Noüy. However, it should not be forgotten that until this era of the mathematization of natural science, concepts like "affinity" in chemistry and "forces" in physics permeated the whole realm of *Philosophia Naturalis*. Hence one should not marvel that his "pictural" attitude led him to describe the highest achievement to which the human mind could attain, as a state of wonder before the elemental phenomena of nature.

Alas for philosophy! He had read—perhaps—Plato, Spinoza, Kant and Schelling. It is evident that he had appropriated those ideas which attracted him, though he re-fashioned them in accordance with his own views, until they emerged as an original part of his work. Thus his Spinozism and Kantianism are creative transformations. To this tendency should be attributed his manifold contradictions, as for instance "Everything must decay into void" (1821) and later "No being can decay into void" (1829). He saw no reason to conceal the fact that Kant's *Critique of Pure Reason* was entirely outside his sphere; and notwithstanding that he deemed himself a Kantian he esteemed only the *Critique of Judgement*. But this self-styled non-philosopher nevertheless augmented the treasury of philosophic thought by propounding the maxim that notion is the sum, idea the result of experience (idea understood in its original Greek sense, ἔιδος, meaning image). Furthermore, in his brief essay on Roger Bacon he was responsible for an exemplary philosophic contribution. Is it not strange that a man who repeatedly referred

to himself as a Spinozist, whose tribute to that rationalist amounted to adoration, did not even begin to understand him (B. Russell)?

Need we wonder that the hierarchy of philosophers with the exception of Hegel, Schelling and Schopenhauer, ignored him? His doctrine of colours was taught at the University of Berlin only and for but a few years. Even Lichtenberg, ardent admirer of the poet, showed a polite but distinct aloofness towards Goethe the scientific thinker. His pontifical manner, his conviction of intuitively possessing the answer to many essential questions in natural philosophy, antagonized the guild of professional thinkers. When he described to Schiller his vision of the *Urpflanze*, the poet-thinker remarked that one could hardly accept it as a perceived fact of experience, but merely as a figment of imagination, an idea. He did not realize that this was precisely what Goethe had intended. Goethe's entire response to the universe stemmed from his *Naturgefühl*, just as Plato's philosophy had its source in a deep sense of wonder. To epitomize, a student who confessed that he could not learn anything from books, who admitted that he had never steeped himself in systematic philosophy—such a mind could never expect recognition from contemporary academic circles. In this ambition he was doomed to fail. One recalls Hume's disillusionment when his first philosophic work, as he said, "fell dead-born from the press. . . ." Goethe followed the philosophers and scientists only in so far as it did not disturb his urge to unite concept and percept, the abstract and the pictural, which fusion was the quintessence of his "concrete thinking," of his *gegenständliches Denken*. It is true he had never "thought about thinking," which is after all the province of epistemology, of philosophy in general. He could but wreck any philosophic concept of theory by proclaiming that theory is in itself of no value, except in so far as it stimulates belief in the connection of phenomena. Herein lies perhaps the only point of contact between Goethe's own views and certain modern trends in natural philosophy, as for instance, the positivism of Mach and his school, albeit it is highly improbable that the spiritual ancestor of the Vienna Circle would have agreed that hypotheses are but cradle songs whereby the teacher lulled his scholars to sleep.

On the contrary, it is not a matter for conjecture but of certainty that Goethe blazed the trail by introducing the concept of *Gestalt* as it is encountered in modern psychology and biology. The classical definition of *Gestalttheorie* reads thus: wherever a process dynamically distributes and regulates itself, determined by the actual situation in a whole field, this process is said to follow principles of *Gestalttheorie* (Köhler). The great exponent of *Gestalt* psychology, Wolfgang Köhler, corroborates this claim when he refers to Goethe's own papers on natural science. There is found the original use of the

word "Gestalt" in its modern sense, to wit that the same type of dynamic process that engenders the formation and segregation of extended wholes will also expound their specific properties. Before Goethe, "Gestalt" possessed only the connotation of shape or form as a quality of things. *Gestalttheorie* undoubtedly represents a reaction against the old atomistic tendency in psychology and biology (Woodger). The "Gestalt" concept was the logical consequence of a mental disposition which could not even grasp, much less apply, the method of dissection in any field of knowledge. The conviction that the living organism has dynamic properties not evinced by the dead organism is generally accepted today.

And now the most essential question automatically arises: how does Goethe's approach to natural science appear in the light of contributions made by theoretical physicists whose activities inaugurated a new era in science and in epistemology? Goethe presupposed the existence of eternal, unchanging laws in nature, of a strict determinism prevailing in the molar as well as in the microscopic universe. But through Heisenberg's *uncertainty principle*, v. Neumann's consummate revelation of the intricacies of quantum mechanics, Born's exposition of indeterministic physics and the rôle of chance therein, the classical views of causality and determinism have been abandoned. And when one considers that though scientists like Eddington and Schrödinger differ, for instance, in their interpretation of the *second law of thermodynamics* and its implications, yet almost all theoretical physicists do agree that not alone in subatomic processes, but in large aggregates as well are the laws of chance, of probability, *i.e.* statistical laws, verifiable; then it is rather difficult to understand how certain thinkers could arrive at the conclusion that Goethe's ideas in any way display a closer affinity with modern physics and its revolutionary notions of causality and determinism, than with the classical tradition. Scholars like Bavink anticipate a *creatio continua* in nature for which the new physics furnishes an overwhelmingly appropriate background. Provided this is true, and an inkling of this belief may be found in some remarks of Goethe, how could such a creed ever be reconciled with his repeatedly affirmed Spinozistic determinism? Likewise, when B. Russell foresees that a certain type of physical theory like that of Eddington is destined to destroy faith in science, surely there can be no parallel between the contemporary decay of scientific faith and Goethe's abnegation of Newtonian science. If one is, however, prepared to stretch a point in order to effect a relationship between the phenomenalist from Weimar and the exponents of modern science, one might refer to his remark that the greatest art in theoretical life consists in transforming a problem into a postulate; in this way one might succeed. The emphasis on an entirely axiomatic treatment of

mathematics as adopted by more and more followers of Hilbert can be, very remotely indeed, construed as an indication of such a link. Moreover, towards the end of his days Goethe had finally come to terms with mathematics proper: "I have heard myself accused of being an opponent, an enemy of mathematics which no one can value more highly than I, for it accomplishes the very thing whose achievement has been denied me." However, it cannot be too greatly stressed that these haphazardly selected utterances represent in no way any fundamental change in his approach to nature! It is little wonder that modern commentators are prone to misconstrue the many aspects of his natural philosophy, since he did not teach doctrine like a professor, but pontificated revelation like a priest, better still, a seer. Kant once referred to chemistry as *a* science but not Science, for the criterion of true science lay in its relation to mathematics. If one approves of this definition as the most significant trend of natural philosophy today—and one has to face the progressive mathematization of science—then could Goethe not survive this acid test?

He was a dilettante, but so were Leonardo da Vinci, Fermat and Faraday. Posterity has elevated him to the position of one of the foremost amateurs in the history of natural philosophy. His work was done for sheer love of it, bearing out Rodin's *bon mot* that *travailler c'est reposer*. Does science owe him a debt of gratitude? Have his maxims or his numerous contributions enriched the store of scientific knowledge? Would science have been the poorer if he had never lived? The dualism of his phenomenalistic and the mathematico-physical approach to natural science has been abolished. Any attempt at returning to a Goethean state of scientific innocence is for ever lost. The development of scientific thought has finally proved to be an irresistible process. *Retour à la nature*, the watchword of Rousseau, is no longer a stimulus to the advance of verifiable knowledge.

On the other hand, there is ample evidence for dissenting from Andrade's depreciation of Goethe's value in the history of science. This British physicist rather gratuitously states—whence the sources of his information?—that science would have taken the course it did, had the German naturalist never made any contribution. Criticism of this sort is meaningless, because it presupposes that the critic is omniscient. Perhaps no less a mind than Whitehead has refuted this suggestion once and for all: "A new idea introduces a new alternative; and we are not less indebted to a thinker when we adopt the alternative which he discarded. Philosophy never reverts to its old position after the shock of a great philosopher." Although Goethe was not a philosopher in the true sense, Whitehead's dictum can nevertheless be applied to anyone who added even *one* new idea to the treasury of human knowledge.

If one is ready to accept that there is also knowledge by intuition —knowledge without the mediation of scientific reasoning—then Goethe is assured a position in the assembly of great scientists.

> "The finest achievement for a man of thought is to have fathomed what may be fathomed, and quietly to revere the unfathomable."

This reflection of Goethe, rightly understood, makes transparently clear the present impasse in natural philosophy; it reveals the melancholy insight that scientific thought has to confront boundaries, limits beyond which lurks the unfathomable. The inevitable truth of this maxim has been recognized by diverse minds. Science has not yet found the solution to the ever present problem: to disclose *the* regulative device which would enable us to maintain an equilibrium between empirico-phenomenalistic reality and the logico-mathematical consequences of abstract inquiry. Our pride in the flawless elegance of an equation, the triumph of carrying abstraction to an undreamt-of degree of perfection, the whole abstractness of exact science, is apt to lead us to the summit of a crystal mountain beyond the reach of human perceptibility where the truth we would capture might appear as a phantom—nothingness. Goethe's love of nature might save our sanity—will it still the ardour of scientific inquiry?

> "Nature! We are surrounded by her and locked in her clasp—powerless to leave her, and powerless to come closer to her. Unasked and unwarned she takes us up into the whirl of her dance, and hurries on with us till we are weary and fall from her arms. . . .
>
> Each of her works has an essence of its own; every shape that she takes is an idea utterly isolated; and yet all forms one. . . .
>
> She has placed me in this world; she will also lead me out of it. I trust myself to her. She may do with me as she pleases. She will not hate her work. I did not speak of her. No! What is true and what is false, she has spoken it all. Everything is her fault, everything is her merit."

Not only as a poet, but also a natural philosopher Johann Wolfgang von Goethe foreshadowed his immortality in the last lines of *Faust:*

> "Nor can the traces of my earthly day
> Through ages from the world depart!"

REFERENCES

GOETHE: "Zur Natur- und Wissenschaftslehre; Zur Zoologie; Zur Botanik; Zur Geologie; Zur Meteorologie; Zur Farbenlehre; Maximen und Reflexionen," Sämtliche Werke, Jubiläums-Ausgabe (Stuttgart und Berlin, Cotta, 1902). Vols. XXXIX and XL.

"Italienische Reise," op. cit., Vol. XXVI, 17/4/1787.

"Zahme Xenien," op. cit., Vol. IV, 7. Buch.

"Briefe an Herder, 27/3/1784; Jacobi, 9/6/1785; Knebel, Nov., 1784; Merck, 11/10/1780; 8/4/1785; Reichardt, 30/3/1791; Sömmering, 2/7/1792; Frau von Stein, 27/3/1784, 8/6/1787; Zelter, 13/3/1822, 29/1/1830. Gespräch mit Riemer, 19/3/1807."

"Maxims and Reflections," trans. by B. Saunders in *The German Classics* (Albany, N.Y., J. B. Lyon). Vol. II.
"Faust," trans. by A. Swanwick, op. cit., Vol. I.
MORRIS, M.: Einleitung in die *Schriften zur Naturwissenschaft* (Goethe's Sämtliche Werke, op. cit.), Vols XXXIX and XL.
ANDRADE, E. N. DA C.: *Goethe as Natural Philosopher*, NATURE, London, **164**, 1949.
BAVINK, B.: *Ergebnisse und Probleme der Naturwissenschaften*, 9th ed., Zürich, 1948, pp. 126, 246–248, 495, 770.
BELL, E. T.: *Men of Mathematics*, London, 1937, pp. 76, 136, 292.
BERTALANFFY, L. VON: *Modern Theories of Development*, Oxford, 1933.
Das biologische Weltbild, Vol. I, Bern, 1949.
BORN, M.: *Experiment and Theory in Physics*, Cambridge, 1943, pp. 2–3, 5–6, 34, 44.
Natural Philosophy of Cause and Chance, Oxford, 1949, pp. 5–9, 101–109, 124, 207.
BRANDES, G.: *Goethe*, Berlin, 1922.
CARUS, C. G.: *Goethe*, Zürich, 1948.
CASSIRER, E.: *An Essay on Man*, Yale, 1945.
Rousseau–Kant–Goethe, Princeton, 1945.
COLLINGWOOD, R. G.: *Speculum Mentis*, Oxford, 1904, p. 150.
COOLIDGE, J. L.: *The Mathematics of Great Amateurs*, Oxford, 1949, p. 43.
DARWIN, C.: *On the Origin of Species*, 2nd ed., Oxford, rep. 1947.
EDDINGTON, A.: *The Philosophy of Physical Science*, Cambridge, 1939, pp. 78, 85–88, 106–109, 137–138, 140–142, 147.
FRANK, P.: *Between Physics and Philosophy*, Harvard, 1941, pp. 30, 42.
Modern Science and its Philosophy, Harvard, 1949, pp. 62–63, 70–71.
GUNDOLF, F.: *Goethe*, 13th ed., Berlin, 1940, pp. 377, 380–381, 415–417.
HEGEL: *Enzyklopädie der philosophischen Wissenschaften*, 1817.
HEISENBERG, W.: *Wandlungen in den Grundlagen der Naturwissenschaften*, Zürich, 1947, pp. 57–69.
HELMHOLTZ, H.: *Handbuch der Physiologischen Optik*, Leipzig, 1896.
Vorträge und Reden, Braunschweig, 1903, Vol. I, p. 21.
HUXLEY, J.: *Evolution*, London, 1948, p. 391.
JAENSCH, E. R.: *Eidetic Imagery and Typological Methods of Investigation*, trans. by O. Oeser from 2nd ed., London, 1930.
JASPERS, K.: *Unsere Zukunft und Goethe*, Zürich, 1949, pp. 19–20, 29, 31.
KIRCHHOFF, G. R.: *Vorlesungen über Mechanik*, Leipzig, 1897.
KÖHLER, W.: *Gestaltpsychology*, New York, 1945, pp. 192–193.
LICHTENBERG, G. C.: *Vermischte Schriften*, 1800–05.
Aphorismen, 1902–04.
NOÜY, L. DU: *Biological Time*, London, 1936.
Human Destiny, London, 1947.
PLANCK, M.: *Where is Science Going?*, London, 1933, pp. 217–218.
The Philosophy of Physics, London, 1936, pp. 16–17, 105.
RUSSELL, B.: *A History of Western Philosophy*, New York, 1945, p. 576.
The Scientific Outlook, London, 1949, pp. 96–98.
RUSSELL, E. S.: *The Interpretation of Development and Heredity*, Oxford, 1930, pp. 34, 148.
SCHRÖDINGER, E.: *What is Life?*, Cambridge, 1948, pp. 21, 32, 76.
SHERRINGTON, C.: *Goethe on Nature and on Science*, Cambridge, 1949.
STÖHR, A.: *Philosophie der unbelebten Materie*, Leipzig, 1907.
THOMPSON, D'ARCY: *On Growth and Form*, Cambridge, 1948, pp. 2, 62, 344, 1019, 1027.

Uexküll, J. von: *Theoretical Biology*, London, 1926, pp. 110–113, 183, 237–238.
Weyl, H.: *Philosophy of Mathematics and Natural Science*, Princeton, 1949, pp. 99, 276, 286.
Wiedersheim, R.: *Grundriss der vergleichenden Anatomie der Wirbeltiere*, Jena, 1898, p. 64.
Whitehead, A. N.: *Process and Reality*, Cambridge, 1929, p. 14.
Woodger, J. H.: *Biological Principles*, London, 1948, p. 419.

DISCUSSION

OBJECTIVITY IN MORALS

There is among many moral philosophers today a renewed emphasis on the connection between reason and morality, and an attempt to exhibit moral behaviour as characteristically rational. What is original in Mr. Kneale's extremely interesting paper (April 1950) is the following-up of a suggestion that certain words like "right," "wrong," "ought," are used in the same way both by lawyers and by moralists; this leads to a logical rehabilitation of the somewhat unpopular concept of the moral law, which in turn argues objectivity and rationality in morals, and makes it possible "to distinguish between good and bad moralists in much the same way as we can distinguish between good and bad lawyers." The legal pattern is essentially the same as the moral pattern.

I find it hard to accept Mr. Kneale's analogy between the law of the land and the moral law, especially at the point where it rests on the less general analogy between the lawyer and the moralist. Moralists are certainly like legislators in a number of ways, but I shall argue that they are very unlike lawyers. I don't think Mr. Kneale has brought out sufficiently clearly the important difference of function, in regard to the law of the land, between lawyer and legislator.

My first criticism is one of method. I don't see that it would be at all strange, as Mr. Kneale thinks it would, if the use of "moral" words in moral contexts were quite different from their use in other contexts such as legal ones; and, in my view, they are, in fact, different. Mr. Kneale introduces his analogies with a classification of all actions into the three categories of "obligatory," "indifferent" (= "right but non-obligatory") and "wrong," corresponding to the categories of "necessary," "contingent" and "impossible" in the logic of modalities. He then says that the modal words "must," "may" and "cannot" are often used in a moral sense. Now it would be more accurate, and less misleading, to say that they are often used in a *legal* sense: for this is a standard or primary use, at least as regards the first two. "Must" and "may" are also used in a causal sense, which is a secondary use, and in a moral sense, which is another secondary use. "Cannot," on the other hand, is a causal word, with a secondary legal use and a secondary moral use. Now it clearly would not do to say that the use of the modal words "must" and "may" by lawyers must be explained in the same way as their use by scientists, or that the way the word "can" is used in discussing the possibility of climbing Everest is to be explained as the way lawyers use it. For secondary, transferred or metaphorical uses of words can be explained by reference to primary, original or literal uses, but not *vice versa*. So far there is no disagreement with Mr. Kneale in substance, but only in method; and the methodological error is the implication that, where a word is used in different kinds of contexts, the elucidation of its use in one kind will be an elucidation of its use in any of the others; whereas I am insisting that, if its use in one kind of context is primary and in others secondary or metaphorical, then elucidating its use in primary contexts will clarify its use in secondary ones but not *vice versa*.

Now I am prepared to agree that "right," "wrong," "must" and "may" are primarily legal words and secondarily moral words (and, in another secondary use, causal words): but this is not true of another word in Mr.

Kneale's list, namely "ought." "Ought" is primarily a moral word. Mr. Kneale doesn't notice this, since he attends only to the fact that these words *are* used in different kinds of context, not to the fact that some kinds are primary and others secondary. He only says that lawyers "succeed in making statements by the use of words like 'ought' and 'right.' " This ignores the fact that, whereas "right" is primarily legal and secondarily moral, "ought" is primarily moral and secondarily legal. But if this is so, describing the legal uses of "ought" won't substantially clarify its moral uses.

The lawyer, then, uses "ought" in a secondary way. There are plenty of other secondary uses of the word. There is even a causal one, as in "You ought to use sour cherries for making jam." It is the multitude of different uses of "ought" that makes it easy to assimilate cases which are in important respects unlike. This is what Mr. Kneale has done with his examples; I shall try to show that they are convincing only because of a play on words.

Let us go back to the classification of actions as "obligatory," "indifferent" and "wrong" and the corresponding logical categories "necessary," "contingent" and "impossible." Now it makes criticism simpler if we borrow the logician's device of reducing two modes in terms of the third. The logician will say that "p is necessary" is equivalent to "not-p is impossible," and that "p is contingent" is equivalent to the conjunction of "p is not impossible" and "not-p is not impossible." We can say, in this fashion, that "Doing A is obligatory" is equivalent to "Not doing A is wrong," and that "Doing A is indifferent" is equivalent to the conjunction of "Doing A is not wrong" and "Not doing A is not wrong." Let us apply this analysis to the first of Mr. Kneale's examples, in which Mrs. A seeks a solicitor's advice on the problem created by letting a room to Mr. B whose cat she dislikes. We can reduce the lawyer's answer to a conjunction of four statements each asserting that a certain action is forbidden. Mrs. A is forbidden (1) to interfere with Mr. B's cat, (2) to put his furniture in the street, (3) to give him less than three months' notice to quit; Mr. B is forbidden (4) to remain in occupation after the expiry of the three months. The lawyer's advice is reducible, quite properly, to certain statements about what the law prohibits. They are not prohibitions, but statements asserting that something is prohibited; and these statements are true or false in a perfectly ordinary way.

This analysis will not work with the second example; and it is this that first made me suspect the analogy. Mrs. C asks a clergyman's advice on the problem created by the discovery that her lodger Mrs. D is unfaithful to her absent husband. The clergyman's reply cannot be construed as a statement, or set of statements, to the effect that something is prohibited (or prescribed). The lawyer's reply was not a prohibition or prescription, but a statement. The clergyman's reply is not a statement, but a prescription or a prohibition. It is not true or false in any ordinary way.

The important difference which comes out here is a difference between the situations regarded as problems: between the kinds of question asked and the kinds of answer expected. The first problem is an instance of what might be called legal perplexity. Mrs. A wants to do something about Mr. B's cat, but she does not act immediately, without a solicitor's advice, because she doesn't want her action to constitute an infringement of the law, about which she is not fully informed. She wants to know what the law is, so that she may avoid breaking it. Her problem is "What am I to do?" but not "What *ought* I to do?"—not, at least, in the primary sense of "What is it my duty to do?" but only in the secondary sense like that of "What kind of cherries ought I to use for jam-making?" Thus the problem is essentially one of ways and means: "How can I get rid of the cat without getting into trouble with the police?"

"What is there I must not (legally) do?" "Which of the alternatives open to me are forbidden by the law?"

The adultery situation is quite different. Moral situations are notoriously difficult to analyse, and I shall state provisionally what I take to be a fairly typical account, which will bring out the difference between the legal and the moral situation. I shall then amend the account to show that the situation is not a genuine instance of a moral problem at all, and that Mr. Kneale is mistaken not only in thinking that the legal situation is like the moral situation, but also in thinking that the example of a "moral" situation which he has chosen to compare with his example of a legal situation *is* an example of a moral situation.

On the provisional view, then, the adultery situation would be described as an instance of moral perplexity, just as the other was an instance of legal perplexity. But Mrs. C is not asking for information about what the moral law is, so that she may take care to avoid breaking it. Her problem can still be expressed as "What am I to do?", but this time it *is* also "What ought I to do?" in the primary sense of "ought." She asks "What is it my duty to do?" and not "Which of the alternatives open to me are forbidden by the moral law?" In other words, whereas the lawyer is expected to say merely what *can* be done without infringing the law, the clergyman is expected to say what *ought* to be done. The lawyer gives information, which can be entirely negative, but the clergyman gives positive guidance. If he doesn't, Mrs. C won't be satisfied. This explains partly why the moral example was not amenable to reduction to the negative mode, as the legal example was. Positive guidance, constructive recommendations, cannot be phrased in terms of prohibitions.

The solution of a legal problem, then, is quite different from the solution of a moral problem. Unfortunately, Mr. Kneale's example is not even an example of a moral problem. We need to be still more precise about the respective jobs of lawyers and clergymen. The lawyer's function is, strictly, to expound the law, not to offer constructive suggestions about practical difficulties, such as Mrs. A's. It is a fact that lawyers are sometimes prepared to offer such suggestions. But this fact belongs to sociology, not to law. A lawyer does not make such suggestions in his legal capacity. His proper business, in the strictest sense, is to listen to his client's proposals and to say whether they are permitted or prohibited by the law, but not to make such proposals himself. For example, there are obviously several possible ways of getting rid of Mr. B's cat which may be mentioned, and the lawyer will say which of these are illegal. The question, what *are* the possible ways of getting rid of the cat is not a legal question, but a "ways and means" question.

Now, similarly, the clergyman's job, as a moralist, is to say whether certain specified actions are right or wrong, certain results good or bad. In the example, Mrs. C and the clergyman are agreed that adultery is wrong. She wants to do something about it: to put an end to it, or at least to express her disapproval. There are several possible ways of doing this; some may have occurred to Mrs. C, others the clergyman, as a person "cleverer" than herself, may be able to think of. So it turns out that the clergyman's advice is not moral, after all. On the moral issue they are already agreed. Adultery is wrong. The clergyman is being asked to suggest ways and means of stopping Mrs. D's adultery, just as the lawyer *might* have been asked to suggest ways and means of getting rid of the cat. But, just as the question, what *are* the ways and means of getting rid of the cat, would not have been a legal question, so the question of ways and means of stopping the adultery is not a moral question. Both are "ways and means," or causal, questions. If the lawyer had given an

answer, he would have done so as a practical adviser and the value of his answer would not have depended on his legal competence. Similarly, if the clergyman gives an answer, as he is expected to do, he does so in the same capacity, and the value of the answer does not depend on his sanctity or on his knowledge of the moral law, but solely on his "cleverness" and his experience as a man of the world.

The legal example, then, was a genuine instance of legal perplexity: but the "moral" example is not a genuine instance of moral perplexity, but only of "ways and means" perplexity. The question "What am I to do?" was, after all, not the question "What ought I to do?" in the primary sense of "What is my duty?" Mrs. C's duty is already clear. What is obscure is how best to perform it. If the expression "What ought I to do?" is used, the sense of the word "ought" is secondary; it is a causal "ought," as in "What cherries ought I to use for jam?"

But if the example is not a true case of moral perplexity, involving a primary "ought," we can easily convert it into one, by supposing a further set of conditions. Suppose that Mr. D is known to be unfaithful too; or suppose that he is believed, though not known, to be dead. Either of these circumstances might well profoundly modify the attitudes of Mrs. C and the clergyman towards the technical act of adultery. The question "Is adultery (in this special case) wrong?" or the question "Ought I (by *any* ways and means) to try to stop it?" would be expressive of genuine moral perplexity. The clergyman's reply would not be advice as to ways and means of performing what is already known to be a duty; still less would it be like the lawyer's advice as to which ways and means are in fact illegal. But it would be very like the act of the legislator.

I have argued at this length for the distinction between lawyer and moralist because I think, with Mr. Kneale, that if we are going to use the phrase "the moral law" we should get as clear as possible what we understand by "law." If we find that legal situations are characteristically very different from moral situations, we must conclude that only confusion can result from the attempt to treat them alike. My criticism has been directed against the analogy between moralist and lawyer, not against the analogy between moralist and legislator. But I suspect that the performance of the legislator has very much less relevance to the concept of "*the* law" than the performance of the lawyer has. The lawyer's business is to state what "the law" is; the legislator's is to lay down certain rules which will subsequently be called "the law" or part of it. They cannot be so called at the time they are enacted. The business of laying down rules precedes the reference to them of actual behaviour. The legislator precedes the lawyer, and the lawyer presupposes the legislator. The precedence is not merely temporal (rules must be made before they can be applied) but logical: it is the logical difference between rulings and rules, or between rule-making and rule-stating, or between prescribing or prohibiting and informing or stating facts. And if the moralist is like the legislator, but unlike the lawyer, his activities do not presuppose "the moral law," just as the legislator's activities do not presuppose "the law of the land" although the lawyer's do.

University of Birmingham. B. MAYO.

NEW BOOKS

Morals and Independence: an Introduction to Ethics. By JOHN COVENTRY, S.J. (Burns Oates. 1949. Pp. 109. Price 4s. 6d.)

I have read this book with alternating admiration and exasperation. It has some great merits. Fr. Coventry contrives to be lucid and straightforward without being superficial in a way which excites in me a wholehearted envy born of repeated failures in this direction on my own part. He is never dull, his style is fresh and easy, even gay, yet the seriousness of his purpose is never in doubt. At the same time there is an admirable economy about the book; everyone, I suppose, is likely to complain of the omission of some of his favourite ethical questions, but what impresses me is rather the extraordinary number of fundamental issues which are raised in 100 short pages.

I wish I could be as complimentary about the details of what Fr. Coventry has to say, for then we might have the ideal introductory book on ethics for which so many of us have been looking; but it seems to me that the book suffers from several serious blemishes which the beginner for whom it is primarily intended would be unlikely to be able to correct, and I shall try to say what some of these are.

Fr. Coventry begins with the question "Why should I be moral?", distinguishing the several senses it may bear and very properly dealing with the most fundamental of them in terms of the opposition, or alleged opposition, between duty and happiness or interest. His account of happiness is in the main Aristotelian, and contains a particularly valuable distinction between "having an aim in life" and "existing for a purpose." I have no faults to find here, but when he turns to discuss duty I find myself often provoked to sharp disagreement. The discussion is largely conducted (again very properly) in terms of an exposition and criticism of Kant's ethics; and part of the trouble is that Fr. Coventry seems to me to perpetuate all the old misconceptions about Kant's ethics of which so many of us are nowadays learning to repent. I want to mention a few of these. Fr. Coventry writes throughout as if Kant held that duty and interest or desire must necessarily conflict, whereas Kant seems to me to be saying in as plain terms as possible that even when an agent knows an action to be his duty and also has a "direct inclination" towards it he may still do it for the sake of duty—though it is difficult to be sure that he is doing so in a particular case (which I think Fr. Coventry would admit). Again, we read "To do a thing because you desire to do it (because of some good you see in the object) is, for Kant, to let the wrong part of you take command. . . . It is more than folly, on [Kant's] theory, it is downright wickedness to be devoted to your family because you love them—no! you must do it as a duty, and from a sense of duty!" (p. 29). This example, says Fr. Coventry, is a *reductio ad absurdum* of the theory. It is not; it is a *reductio ad absurdum* of the attribution of such a view to Kant. Kant would surely have two remarks to make here: (*a*) my love for my family may be *practical* and not merely *pathological*, and in that case it will be morally good; (*b*) even pathological love for my family is, like spontaneous benevolence, the desire for honour, and so forth, though not deserving of *moral esteem*, yet worthy of "praise and encouragement"—attitudes which Kant of all people would be unlikely to adopt towards what he considered to be "wickedness." It is surely a complete mistake to think that Kant regarded everything in human character and action except acting from duty as on the same dead level

of bestiality; yet this is what I think Fr. Coventry takes him to mean. On another page we read that "the Kantian . . . is quite wrong to regard a moral obligation . . . as contaminated by any association with desire, as degraded by the fact that it meets with our approval: he is utterly wrong in thinking that you *must* be at fault if you do something because you want to or because it's fun." I am quite sure that Kant is not committed to either of these discouraging positions—and in particular the phrase "degraded by the fact that it meets with our approval" is a precise opposition to what he would have held (all imperatives, he said, "say that something would be *good* to do or to forbear . . ."). One further quotation: Kant, according to Fr. Coventry, thought that we ought to "go through life with a harassing consciousness of duty-to-be-done dogging our every footstep . . . that we ought to cultivate this frame of mind" (p. 47). This is completely to ignore Kant's assertion that it is a mark of the virtuous man that he does his duty gladly; nor would one ever gather from Fr. Coventry's account that Kant held that happiness as well as virtue is an essential element in the complete good. It is no wonder that he thinks that the normal reaction of a person who meets the doctrine of the Categorical Imperative for the first time is "If this is true, it is ghastly!" (Personally, in those to whom I have taught ethics, I have usually found the *anima naturaliter Kantiana* pretty easy to discover—but that is another matter.)

I do not want to go on belabouring this theme. I am not merely trying to say in shocked tones "this man misrepresents Kant!" There is something much more important than that to be said: for in spite of his strictures it seems to me that Fr. Coventry is much more of a Kantian than he himself realizes and that it is largely his mistaken view of what Kant holds that prevents him from accepting more of Kant's ethics than he does. Even at what he regards, with a good deal of justification, as the crucial point of his opposition, viz. the question of the relation of reason to desire (he thinks that Kant and Hume both fell into the same mistake of thinking that desires cannot be rational), something can be done to relieve the tension; for I want to make the suggestion that the Kantian term which comes nearest to Fr. Coventry's use of the word "desire" is not "desire" at all but "interest"—and Kant certainly held that we can have an interest in acting morally, a *rational* interest in the pursuit of ends, and so forth. It would take far too long to develop this here, but I think that if this suggestion is worked out we shall find in Kant a great deal of what Fr. Coventry wishes to maintain under the heading of "rational desire." For the rest, if Fr. Coventry were to take account of the facts that for Kant the notion of "good" is more fundamental than that of "duty" and that in the perfect will there would be no "sense of duty" at all (so that "acting from a sense of duty" and "being morally good" are *not* equivalent); if he were to bear in mind Kant's belief that for the determination of our concrete duty there is required a "judgment sharpened by experience" as well as pure practical reason (which by itself only supplies us with the formal principle of morality and not with its application); and if he were to set all this alongside the genuinely Kantian elements in his own view—his willingness to speak of categorical imperatives, his acknowledgment that "the essence of morally good action lies in the control exercised by pure practical reason" (p. 39), his statement (on p. 76) that "there is a command in a moral judgment, but the command is one I lay upon myself" (could one wish for a better statement in a single line of the Kantian principle of Autonomy?), even the remark "duty is a compelling *good*" (which he advances *in opposition to* Kant);—then I feel sure he would have been willing to model his system on much more Kantian lines than he does. And this is

important for the following reason. The view one commonly finds expressed by Catholic philosophers is that Christian ethics must be in their main structure Aristotelian—from which it seems an almost inevitable conclusion that Kantian ethics must be radically anti-Christian. Fr. Coventry, unless I am much mistaken, is beginning to break away from this tradition, and not only do I congratulate him upon this but I wish he would go farther in this direction than he does. No one, I suppose, is likely to claim that either Aristotle's ethics or Kant's will do just as they stand as a completely satisfactory Christian scheme; but I have always thought that Kant's require much less tinkering than Aristotle's to make them Christian. And if I am right about this it is after all not much to be wondered at, for the religious background against which Kant developed, however much Fr. Coventry (and I) may want to find fault with it, was at least a kind of Christianity, which Aristotle's of course had no chance of being.

I have a similar complaint (which, fortunately, I can state much more briefly) about Fr. Coventry's treatment of naturalistic and non-naturalistic ethical theories. He claims to steer a mid-course between these two types, but he seems clearly to be what most of us would call a straightforward non-naturalist (he holds that moral judgments give us "an irreducible kind of information about the nature of human action," different in kind from that expressed in mathematical, scientific or historical judgments but just as "real" (p. 55)), and he only manages to deny this by giving a very odd account of the non-naturalist's position, which is "that we make judgments about right and wrong *in vacuo*, without any reference to our other knowledge or to our general experience and education; that we make them quite out of our heads, as it were, through some rather obscure necessity of our nature." I can only say that I do not recognize this as a description of any non-naturalistic theory with which I am acquainted.

The upshot of Fr. Coventry's discussion of interest and duty is his view that what is in our ultimate interest and what is our duty *inevitably coincide*. He is, however, quite clear that "duty" and "interest" do not *mean* the same; and he must therefore be regarding the statement that they coincide as a synthetic *a priori* proposition. Obviously if this is true it is highly important, and I therefore wish very much that he had tried to argue for it more satisfactorily: for the nerve of his argument seems to lie in this passage in p. 43: "This all-important identification of virtue and interest is grounded on the fact that—is only possible once granted the fact that—I am fully "I" only when my reason is in control: what I desire then is morally good"—and this I find very obscure (just as obscure as the notion of a "Real Will" which only two pages later Fr. Coventry rightly calls "nonsensical"). And what I find even odder is the next sentence: "If this be denied, then morality and interest can conflict, *and choice between them is impossible.*"[1]

Fr. Coventry moves on to discuss freedom, and gives us a reasonable defence of free-will, an account of the distinction between "freedom from" and "freedom to," a discussion of the relation of law to freedom, some remarks about freedom of thought which leave me a little uneasy and require to be supplemented by Mill's *Essay on Liberty*, and a view of the familiar distinction between objectively and subjectively right actions which accepts too easily, I think, the position that "for all his good intentions, a man whose action is objectively bad, though subjectively good, [is] not in fact doing something worth while" (p. 78).

The relation of ethics to theology is next discussed. Fr. Coventry holds

[1] My italics.

that ordinary moral judgments do not depend on belief in God, that "there is plenty of sense in being good, whether you believe in God or not," but that when Christianity is brought into the picture it "irradiates" or "transfigures" ethics though without annulling what a sound secular ethic can establish; and this seems to me so absolutely right in principle that it would be churlish to mention any minor points in his treatment with which I might disagree.

The last chapter ("Moral Law") contains only one point on which I want to comment. Fr. Coventry draws the important distinction between statements like "cruelty is wrong" (where "cruelty" is itself a term of blame) which are analytic and therefore universal, and those like "killing other men is wrong" (where "killing" is a purely descriptive term), which are synthetic and, he thinks, mere generalizations and never—or almost never—universal (he is not sure that "wife-beating is wrong" might not be universal as well as synthetic); and he correctly points out the confusion which often arises from the fact that the same verbal formula may be used in either of these two ways (as in the case of "lying is wrong"). All this is important; but surely it is misleading to say that we arrive at the analytic kind of judgment by "a type of induction" (p. 100) or by "generalizing" from instances of cruelty, etc. (p. 102). What the analytic judgment in question says is something like " 'Cruelty' is a term of moral disapprobation"—i.e. it is a statement not about actions but about the word "cruelty"; it is even misleading to call this a moral judgment at all.

One final point: Fr. Coventry's first question was "Why should I be moral?" and on p. 59 he says that in the last resort the only answer can be "You know very well you should!" But on p. 76 he reaches the conclusion that "to desire to be free from [moral] commands is to desire to have a mind and yet not to have a mind"; and this suggests that he is working towards a different kind of answer—and a Kantian one at that.

GEORGE E. HUGHES.

Treatise on Values. By SAMUEL L. HART. (Philosophical Library, New York, 1949. Pp. 165. Price $3.75.)

The appearance of a new book on values raises certain expectations, for there is always the possibility that it will rescue axiology from the somewhat unhappy predicament into which Emotive theorists have forced it. We want to know whether there is any connection after all between what common sense believes and what philosophical analysis purports to reveal. To the clarification of this issue, however, Dr. Hart's contribution is small—although he is expressly concerned to refute the "value-nominalism" of Carnap and the positivists. His main trouble, perhaps, is that he has little original thought to offer; he is content to follow Dewey's instrumentalist approach, and to reproduce, as part of his main text, passage after passage from the works of his mentor.

Many of Dr. Hart's remarks are interesting from a sociological point of view—particularly those concerning the functional significance of value-concepts in the context of daily life; but his treatment of value from a strictly philosophical point of view is superficial, and he never really gets to grips with his problem. He obviously hankers after "intrinsic" values—which he is precluded from accepting because of the theory he has embraced—and does not hesitate to talk of "higher" forms of moral life, "larger and nobler" objectives, "true" patterns of life and so forth, without realizing what this sort

of talk involves. He accepts "spiritual" values, but these have to be expressed in terms of "better adjustments and integrations," "increments of psychic substance" and similar obscure phrases. The fact that this borrowed psychological jargon begs the whole question is never recognized for a moment. Perhaps if the author had been more sure of himself, and less dependent on the opinions of others, he would have produced a more satisfactory book.

J. HARTLAND-SWANN.

Books also received:

SHAW DESMOND. *Psychic Pitfalls*. London: Rider & Co. 1950. Pp. 271. 15s.

D. T. SUZUKI. *Living by Zen*. London: Rider & Co. 1950. Pp. 187. 15s.

GEORGES BERNANOS. *Tradition of Freedom*. London: Dennis Dobson, Ltd. 1950. Pp. 165. 8s. 6d.

GEORG MISCH. *The Dawn of Philosophy: A Philosophical Primer*. London: Routledge and Kegan Paul, Ltd. 1950. Pp. xi + 333. 25s.

H. F. STEWART, D.D. *Pascal's Pensées* (Bi-lingual edition). London: Routledge and Kegan Paul, Ltd. 1950. Pp. xxiv + 543. 21s.

G. W. KEETON and G. SCHWARZENBERGER (ED.). *Current Legal Problems*. London: Stevens & Sons, Ltd. 1950. Pp. 305. 21s.

C. A. RICHARDSON. *Knowledge, Reality and Life*. London: George Harrap & Co., Ltd. 1950. Pp. 346. 15s.

P. N. SRINIVASACHARI. *The Philosophy of Visishtadvaita*. Madras: Adyar Press. 1943. The Theosophical Society. Pp. xlix + 642. Rs. 12.

PAUL BRUNTON. *The Hidden Teaching Behind Yoga*. London: Rider & Co. 1950. Pp. 365. 21s.

D. T. SUZUKI. *Manual of Zen Buddhism*. London: Rider & Co. 1950. Pp. 192. 15s.

D. T. SUZUKI. *Essays in Zen Buddhism*. London: Rider & Co. 1950. Pp. 348. 15s.

NANDOR FODOR and FRANK GAYNOR (ED.). *Freud: Dictionary of Psychoanalysis*. New York: Philosophical Library. 1950. Pp. xxii + 208. $3.75.

EDWARD A. MAZIARZ. *The Philosophy of Mathematics*. New York: Philosophical Library. 1950. Pp. viii + 286. $4.00.

WILLIAM S. MORGAN. *The Philosophy of Religion*. New York: Philosophical Library. 1950. Pp. xv + 413. $6.00.

JOHN MACMURRAY. *Conditions of Freedom*. London: Faber & Faber, Ltd. 1950. Pp. 106. 6s.

KARL JASPERS. *The Perennial Scope of Philosophy* (Trans. Ralph Manheim). London: Routledge and Kegan Paul. 1950. Pp. 180. 10s. 6d.

LESLIE J. WALKER, S.J. (translator). *The Discourses of Niccolo Machiavelli*. London: Routledge and Kegan Paul. 1950. 2 Vols. Pp. xiii + 585 and 390.

LESLIE PAUL. *The Age of Terror*. London: Faber & Faber. 1950. Pp. 256. 18s.

BEN ZION BOKSER. *The Legacy of Maimonides*. New York: Philosophical Library. 1950. Pp. viii + 128. $3.65.

CHARLES A. MOORE (ED.). *The Second East-West Philosophers' Conference—a Preliminary Report*. University of Hawai. 1949. Pp. 42. No price stated.

N. H. G. ROBINSON. *Faith and Duty*. London: Gollancz, Ltd. 1950. Pp. x + 150. 12s. 6d.

BARBARA WOOTTON. *Testament for Social Science*. London: George Allen & Unwin, Ltd. 1950. Pp. viii + 198. 15s.

G. SOMMERHOF. *Analytical Biology*. Oxford University Press: London: Geoffrey Cumberlege. 1950. Pp. viii + 208. 17s. 6d.

VERGILIUS FERM (ED.). *A History of Philosophical Systems*. New York: Philosophical Library. 1950. Pp. xvi + 642. $6.00.

GEORGE T. HILL. *Creative Love.* The New Church College: Fourth Annual Lecture. 1948–49. Pp. 22. 1s. 6d.

SIR JOHN PARSONS. *The Springs of Conduct: a Neuro-psychological Study.* London: J. & A. Churchill, Ltd. 1950. Pp. viii + 104. 7s. 6d.

KURT WILK (Trans.). *The Legal Philosophies of Lask, Radbruch and Dabin.* Cambridge (Mass.): Harvard University Press. 1950. Pp. xliv + 494. $7.50.

HARDIN GRAIG. *The Enchanted Glass: The Renaissance Mind in English Literature.* Oxford: Basil Blackwell. 1950. Pp. x + 294. 12s. 6d.

MARSHALL C. GRECO. *Group Life: The Nature and Treatment of its Specific Conflicts.* New York: Philosophical Library. 1950. Pp. xvi + 358. $4.75.

PROFESSOR W. T. STACE. *Montgomery Lectures on Contemporary Civilisation.* University of Nebraska. 1950. Pp. 68. No price stated.

MARJORIE K. BURKE. *Origin of History as Metaphysic.* New York: Philosophical Library. 1950. Pp. 62. $2.75.

STEPHEN TOULMIN. *The Place of Reason in Ethics.* Cambridge University Press. 1950. Pp. xiv + 228. 16s.

FRANK CHAPMAN SHARP. *Good Will and Ill Will: A Study in Moral Judgments.* University of Chicago Press. London: Cambridge University Press. 1950. Pp. xii + 248. 37s. 6d.

A. C. DAS. *An Introduction to Logic.* Vols. I and II. Calcutta: Kamala Book Depot. 1950. Pp. xii + 347; viii + 258. Rs. 4 and 4.

WINSTON H. F. BARNES. *The Philosophical Predicament.* London: Adam and Charles Black. 1950. Pp. 186. 10s. 6d.

N. P. STALLKNECHT and R. S. BRUMBAUGH. *The Spirit of Western Philosophy.* New York: Longmans, Green & Co. 1950. Pp. xxix + 540. $4.75.

SIDNEY GREENBERG. *The Infinite in Giordano Bruno.* New York: King's Crown Press; London: Geoffrey Cumberlege. 1950. Pp. 203. 20s.

A. L. HILLIARD. *The Forms of Value: The Extension of a Hedonist Axiology.* New York: Columbia University Press (London: Geoffrey Cumberlege). 1950. Pp. xvi + 344. 25s.

AUGUSTE GRÉGOIRE, S.J. *Leçons de Philosophie des Sciences Experimentales.* Namur: Bibliotheque de la Faculté de Philosophie et Lettres. 1950. Pp. 230. No price stated.

JOSEPH NUTTIN. *Psychoanalyse et Conception Spiritualiste de L'Homme.* Publications Universitaires de Louvain. 1950. Pp. 434. 140 Belg. Fr.

Bibliographische Einführungen in das Studium der Philosophie. Berne: A. Francke AG. Verlag. 1950:—

12. OLOF GIGON. *Platon.* Pp. 30. S.Fr.2.

13/17. PAUL WYSER, O.P. *Thomas von Aquin.* Pp. 79. S.Fr. 5.80.

17. DR. FERNAND VAN STEENBERGHEN. *Philosophie des Mittelalters.* Pp. 52. S.Fr. 3.80.

18. OTHMAR PERLER. *Patristische Philosophie.* Pp. 44. S.Fr. 2.80.

19. GEORGES VAJDA. *Jüdische Philosophie.* Pp. 40. S.Fr. 2.80.

20/21. DR. C. REGAMEY. *Buddhistische Philosophie.* Pp. 86. S.Fr. 5.80.

MARIO DEL PRA. *La Storiografia Filosofica Antica.* Milan: Fratelli Bocca. Pp. 305. L. 800.

FRANCESCO ALBÈRGAMO. *La Critica della Scienza nel Novecento.* Florence: La Nuova Italia. 1950. Pp. xxii + 386. L. 1200.

DOMENICO ANTONIO CARDONE. *Il Problema del Sovraumano.* Libreria Editrice G. Barone, Palmi. 1950. Pp. 86. Lire 200.

FELIX SCHWARTZMANN. *El Sentimiento de lo Humano en America.* Vol. 1. Universidad de Chile: Instituto de Investigaciones Historico-Culturales. 1950. Pp. 289. No price stated.

INSTITUTE NOTES

The following lectures have been arranged for the Lent Term: University Hall, 14 Gordon Square, W.C.1, at 5.15 p.m.

January 26.	*"Knowledge of Good and Evil"*—	
February 2.	(1) "Reflection and Feeling" (2) "Guilt, Abnormality and Prejudice"	A course of four lectures by A. J. T. Wisdom, M.A., on "The Philosophy of Mind and Value."
February 9.	*"Knowledge of Thought and Feeling"*—	
February 16.	(1) "Knowledge of others—Isolation" (2) "Knowledge of Oneself—The Unconscious"	
February 23.	"The Nature of Religious Knowledge"	The Very Rev. W. R. Matthews, K.C.V.O., D.Litt., D.D. (Dean of St. Paul's).
March 2.	"The Function of Art in Civilization"	Stanley Spencer, R.A.
March 16.	"The Nature of Aesthetic Experience"	The Earl of Listowel, P.C., Ph.D.

OBJECTS OF THE INSTITUTE

The Royal Institute of Philosophy exists to bring leading exponents of various branches of Philosophy into direct contact with the general public, with the purpose of satisfying a need felt by many men and women in every walk of life for greater clearness and comprehensiveness of vision in human affairs.

There are Local Centres of the Institute at Bangor, Cardiff, Liverpool, Manchester, Newcastle, Durham, and Sheffield.

Students of philosophy are reminded that they may become associates of the Institute at a reduced fee of 8s. 6d. per annum, provided they are full-time students studying for a degree or diploma at a university or university college and not engaged in a gainful occupation. Present or past Members of the Institute are not eligible to become Associates.

Further information and forms of application for membership may be had on application to the Director of Studies at University Hall, 14 Gordon Square, London, W.C.1.

OBITUARY

RAJASEVASAKTA V. SUBRAHMANYA IYER, OF MYSORE, INDIA

On Christmas Day, 1949, Mr. Subrahmanya Iyer passed away at the ripe age of 81. Born at Salem in 1869, he had his early education in Bangalore and after passing the Matriculation Examination he joined the Madras Christian College. Mr. Iyer early felt the call of philosophy under the inspiring teaching of Dr. Charles Cooper, who kindled in him "a passionate love for metaphysics." He also studied Physiology under Dr. J. R. Henderson. He then felt attracted by Thomas Huxley and Herbert Spencer and so he went on to study Physics and Mathematics under Dr. John Cook of Central College, Bangalore. He started his life in the Education Department of Mysore, but with the adventurous spirit of youth he soon preferred to accept a professorship in Physics in a college at Agra. He there met Chamarajendra Wodiyar, Maharaja of Mysore, who was struck by his personality and tempted him back to Mysore service. After serving as teacher for a few years he soon became Head Master of several schools and as Head Master Mr. Iyer made a name for himself. Later he worked as Assistant to the Inspector-General of Education in Mysore and as Secretary of the Board of Education, a branch of the Mysore Economic Conference. In 1920 he was appointed Registrar of Mysore University and in 1926 he retired.

It was during his headmastership at Shimoga and Chickmagalur that there occurred the most outstanding incident in his life: his contact with the then Sringeri Swami, Narasimha Bharati. Sringeri Mutt was originally founded by the great Sankarcharya in the eighth century and the heads of the Mutt through successive centuries have enjoyed immense prestige and power all over India and particularly in South India. Narasimha Bharati was an exceptional scholar and cast his spell over Mr. Subrahmanya Iyer. Every vacation year after year came to be spent by him with the great Swami and as a result of it Mr. Iyer emerged as a confirmed Advaitin and a devoted follower of Sankara. It was an irony of fate that he never got a chance of teaching philosophy in a college or a university, but it is all the more creditable that he kept up his interest in philosophy, read voraciously every book on philosophy, Eastern or Western, that came his way, and like Socrates delighted in button-holing kindred spirits into endless philosophic discussion. His contact with the members of the Philosophy Department of Mysore University was a very living one.

It was after his retirement that he came more and more into personal contact with His late Highness Krishnaraja Wodiyar IV, Maharaja of Mysore, whose deep philosophic interest made him recognize the philosophic worth of Mr. Iyer, and Mr. Iyer practically became Reader in Philosophy to His Highness. Out of gratitude to His Highness Mr. Iyer endowed "Shri Krishnarajendra Silver Jubilee Lectureship" in the University of Mysore. The subject of the lecture has to be on Science and Humanities in alternate years. It was this contact that gave birth to the very fine idea of starting a Study Circle in the Ramakrishna Mission at Mysore. His Highness undertook the responsibility of maintaining a number of the members of the Mission year after year to study philosophy under Mr. Iyer. At long last the chance came to Mr. Iyer to be a teacher of philosophy. Members of the Philosophy Department of Mysore University gave lectures on European Metaphysics and Ethics and Sociology, and the idea of the Maharaja that the Swamis of the Ramakrishna Asharama should not just be learned on Indian lines, but should also be versed in Western philosophy, came to be abundantly realized.

In 1936 he accompanied the late Maharaja of Mysore to Europe and in 1937 he was again sent to Paris to attend the International Philosophic Conference held at Paris. This visit was responsible for one great change in Mr. Iyer's outlook. As a devoted follower of Sankara it was his habit to be copiously quoting from Sankara. After his visit to Europe he gave up this habit and was more inclined to argue out problems in an impersonal way, though the old bias and the old loyalties never left him.

His Philosophy

What was his philosophic teaching? He was a confirmed Advaitin, believed in the ultimate reality of *Brahman* and *Brahman* only: *nirguna* or without qualities. He accepted the doctrine of *maya*, which is usually translated as illusion, but Mr. Iyer was content to speak of it as phenomenal and to this extent as unreal. His originality lay in trying to prove the truth of *Advaita* on the basis of Western science. He expatiated on the disinterestedness of philosophic studies and the importance of the scientific method even in philosophy. His favourites in Western philosophy were Hume and Bradley and also Kant. It was his confirmed belief that "no philosophy can live today in anything but a fool's paradise, unless it ventures out into the open but biting air of critical reason as natural science does." It followed from this that he had no faith in mysticism or religion. He accepted the pragmatic value of religion for 9,999 out of 10,000, but to the select among his audience he made no secret that he had nothing but contempt for religion as truth. He thought that Western philosophers had not devoted themselves to the pursuit of Truth, that they had not raised this fundamental question and hence they had not come up to the level of philosophic thought in India. But let it be remembered that when he spoke of the superiority of Indian philosophy, he always meant thereby *Advaita*, for he had just a bare patronizing tolerance for all Indian thought other than *Advaita*. There were palpable lacunae in his thought, and many, including the present writer, could not accept his conclusions, but none who came into contact with him failed to breathe a pure metaphysical air or to be impressed by his earnestness and worth as a philosophic thinker of the highest order.

Mr. Iyer has died full of years, leaving behind him a son and three daughters and a very wide circle of friends and admirers.

A. R. Wadia.

CONTENTS

		PAGE
I.	HÄGERSTRÖM'S ACCOUNT OF SENSE OF DUTY AND CERTAIN ALLIED EXPERIENCES. Professor C. D. Broad . . .	99
II.	POETS AND THEIR PHILOSOPHIES. Meyrick H. Carré, M.A.	114
III.	THE VIRTUE OF THE ACT AND THE VIRTUE OF THE AGENT A. N. Prior, M.A.	121
IV.	PLATO AS POET (II). John Hartland-Swann, B.Litt., Ph.D. .	131
V.	DISCUSSION: CHANGING METHODS IN PHILOSOPHY . .	142
VI.	PHILOSOPHICAL SURVEY: PHILOSOPHY IN ITALY . .	146
VII.	NEW BOOKS	149
VIII.	INSTITUTE NOTES AND NOTICES	192

THE ROYAL INSTITUTE OF PHILOSOPHY

APPEAL FOR NEW MEMBERS AND DONATIONS

The Council is willing to receive applications for membership of the Institute from all those who are interested in philosophy.

The Institute has no endowments, and its work, which includes lecture courses and meetings for discussions in the various Centres, as well as the conduct of the Journal, cannot be carried on from revenue derived solely from annual subscriptions. The Council, therefore, appeals for donations, small or large, from sympathizers with the Institute's aims.

PRINTED IN GREAT BRITAIN
BY UNWIN BROTHERS LIMITED
WOKING AND LONDON